



STRUCTURAL ANALYSIS OF TECHNOLOGY ACCEPTANCE ON THE EFFECTIVENESS OF THE ELECTRONIC CUSTOMER RELATIONSHIP MANAGEMENT IN BANKING INDUSTRY

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ABSTRACT

Research objective: A lot of people's access to the Internet all around the world and expansion of electronic Communications between people and organisations through virtual world has provided grounds for trade interactions and customer relationship. Although much research has been conducted customer relationship, yet in these research different theoretical frameworks have been utilized. However, in electronic management, not many research have been conducted in customer relationship especially in private banking area; therefore, this subject has been considered as the main objective of this research. This research aims at investigating technological readiness in Technology Acceptance Model, and the use of E-CRM of Bank Saderat Iran in northern Tehran. Research Method: Research method was descriptive applied library search. Data was collected through a standardized questionnaire whose reliability and validity were approved. The sample of this research was all branch managers, their assistants, and the officers working in northern Tehran branches of Saderat bank. The number of the subjects, based on Kukran formula was 218 which was determined via random selection. SPSS 22 and Smartpls 3 were used as data analysis software. Research Results: The result of this research showed that advantage adaptability, observations, experimentation, daily activities, organization, and environment play a pivotal role in accepting E-CRM. At the end of the research some suggestions on research hypotheses were provided.

Keywords: Technology Acceptance, Customer Relationship, Banking Industry, Sem

INTRODUCTION

A lot of successful organizations reiterate that maintaining a sustainable relationship with customers can keep them firm and pioneer in competitions. This strategy is different in different organization based on the needs of the organization and the customers (Verhoef 2003). Customer relationship provides a general and clear picture of what is needed from customers in details. This establishes a specific relationship between customers and organization and accordingly no sales chances and customer satisfaction subsequently will be lost. Because of the increasing competition, organizations must have an exact knowledge of their environment and specifically of their customers, who are the main factor in keeping organizations alive, to be able to survive in this arena. This way organizations can find their customers' needs in order to effectively interact with environments in time. Therefore, a large number of successful organizations in the world have managed to prioritize their external

environment and precise understanding of the needs of their customers through environmental data collection systems (Payne & Frow, 2005).

Considering the cultural, social, technological, and other changes that have taken place, it is not possible to merely compete with cheaper, better, or stronger products and competitive advantage will not be realized only by depending on variety of products but through increasing relationship with customers (Reinartz, Krafft & Hoyer, 2004). Customers' expectations has been on the rise during the recent years and a factor in turning the element of customer relationship to a necessity in today's customer-centred commercial environments (Nagi, Xiu & Chau, 2009). Researches emphasize that costs of attracting new customers are higher than retaining the current ones. One of the major reasons in this regard is the marketing an advertisement costs. It means that, instead of having a variety of products organizations must distinguish between their customers, and focus on the customers' share rather than on market share. Researches also show that organizations must not only try to retain their current customers, but they need to spend more time having for two full relationships with their customers (Da'avi & Nazari, 2014).

In recent years that term "customer relationship" has drawn much attention in marketing and information technology. Academics, software Sellers, advisers, and business people have been very active in this field and developed the concept of this slogan, i.e., Organization's efforts must provide and offer higher values to the customer. Organizations admit that customers are their most important asset. Therefore customer relationship, to them, is a lucrative interaction which requires proper management (Haller Baird, & Parasnis, 2011).

In electronic management of customer relationship, especially in private banking, so far there have not been comprehensive researchers; therefore, this point was taken as the main issue of this research. On the other hand, the present research aims at providing Technology Acceptance Management model to increase the efficiency of electronic management of customer relationship in Saderat bank.

THEORETICAL FOUNDATIONS OF THE RESEARCH

Customer Relationship Management

That term "Customer Relationship Management" is in fact a strategic system in collecting customers' commercial needs and behaviours which aims at establishing stronger relationships with them. Strong relationship with customers, is in fact, the most important key to success for every business. CRM consists of three major parts: relationships, customers, and management. Customer relationship management includes instructions, methods, processes, and strategies of the organization to merge their customers' needs and keep their information (Soltani and Navimipour, 2016).

Customer is referred to as the end user, who in value-creating relationships, play a supportive role. Relationship means creating more loyal and profit-making customers through a learning relationship, and management means creativity and ability tools to steer a customer-centred business and put the customer in the centre of organization's processes and experiences. Today, customer relationship management is of strategic importance. In difficult competition circumstances, timely and organized relationship with customers is the best way to increase customer satisfaction, sales, at the same time cut the cost. Taking the scores into account makes



customer relationship management and organization a kind of commercial strategy (Farid et al., 2014).

Some of the customer relationship management systems performances are as follows: data warehousing, data mining, and it is also a tool for decision-making and providing reports (Hendricks et al., 2007; Katz, 2002; Soltani & Navimipour, 2016).

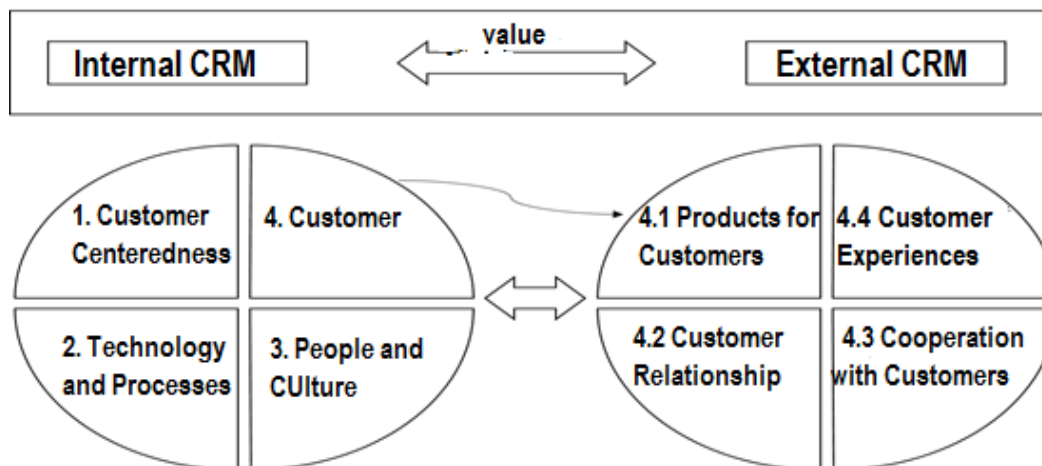


Figure 1. Customer Relationship Cycles (Triznova et al., 2015)

Electronic Customer Relationship Management

Customer management is a pivotal and important issue in marketing but is yet not entirely accepted. Zabla et al. (2004) have considered this approach as a process, a strategy, a philosophy, and a technological tool or capability. Kellen (2002) has stated that customer relationship is a commercial strategy to acquire long-term competitive advantage through optimizing time and quality of delivery to customers, and at the same time, extracting commercial values. In straightforward terms, the aim of electronic customer relationship management is understanding values and treating customers in a better way to increase their loyalty and profit of the company accordingly. In other words, companies must rely on reconstructing their relationship with customers more than depending on the conventional model of “try to sell more”. There is a large number of researches indicating that technological advances that have taken place during the recent years have had a considerable effect on organizations’ trade processes and output. Among the mentioned technological advances, maybe the emergence of the Internet has been the most important one which has affected the world of customer relationship management. This achievement, with its interactive nature, has provided very good grounds for managers to establish a continuous and quality relationship with their customers. In addition to unique chances in establishing a relationship with shareholders, attraction technology as an effective force in attracting customers, an access to technical infrastructure in order to do data mining and warehousing, high speed and efficiency of customer relationship are among other key Internet features in customer relationship management. It is crystal clear that the Internet provides an extraordinary power in creating better customer relationship. All these points indicate that now there is a new and developed type of customer relationship management referred to as electronic customer relationship management. Although Internet provides promising grounds in implementing



customer relationship management, yet to achieve success in electronic customer relationship management the only way is consistent and appropriate planning. Therefore, evaluating the performance of activities of electronic customer relationship management in Internet interactions and determining the effectiveness of this communication channel in customer relationship management plans are of great importance (Esmielpour & Ghariheh, 2012). Either of the two CRM concepts and Electronic Technologies have different implications in organizations, but merging these two, i.e., electronic customer relationship management causes synergy in creating new values for organizations (Trainor et al., 2014).

Information Technology Acceptance

Accepting is a multi-dimensional phenomenon and a combination of key variables such as conceptions, ideas, approaches, individual characteristics, and the extent of their involvement in information technology. Users' acceptance is defined as "an obvious interest in the group in using information and communication technology in order to perform the tasks these technologies have been designed to support" (Khodabakhsh et al., 2014).

Remarkable expansion of technology in business processes to offer higher quality to customers has led to the emergence of more complicated technologies in trading. These new technologies are being used to satisfy customers, but researchers have shown of that customers do not easily and equally accept new technologies (Magotra et al, 2016). Table 1 introduces the most important models in accepting information technologies.

Table 1. Introducing the Most Important Models in Accepting Information Technology (Khodabakhsh et al, 2014)

real behaviour Theory	Individuals act logically. They collect all the available data about target behaviour and evaluate them in an organized manner; they also consider their effects and results; then, based on their own reasoning, they decide to act or not.
Planned behaviour Theory	An individual's behaviour is triggered by his willingness to show that behaviour. This willingness is determined by the attitude to behaviour, individual's norms, and an individual's ability in realizing successful behaviour.
Technology acceptance Theory	Individuals' understanding of technology affects their attitude to technology. This model indicates that using information technology is determined by willingness to act. This behavioural intention itself is then determined by two concepts of profitability and ease.
Task-technology Fit model	If information and communication Technology Systems support organizational obligations, they will probably be used more and can organize individual's obligations; because users use methods which can help them do their obligations in the best way and with the highest interests. If information and communication technology does not provide such competitive advantage, it will be ignored.
Diffusion of Innovations theory	People's understanding of features of an innovation case determine the rate of acceptance. In this theory, it is believed that users' understanding of the features of the innovation is important. This Theory imply that users' understanding of the features of the innovation affect their acceptance.
Expectation-confirmation model	This model focuses on individuals' psychological motivations which appear after they initially except information and communication technology. This model determines the willingness of users in continuously using information and communication technology based on three constructs of the extent of technology approval by users, users' expectations after they have accepted the technology, and users' satisfaction of the technology which ends up using it continuously.



Technology Acceptance in the Bank

As the access to and use of information and communication technology, and more specifically the Internet, has been eased, no channels have been created for advertising, purchasing, and selling products. So, in recent years new business models have been released. E-commerce and electronic business are among the most important parts of these models. In Electronic Commerce, business processes are electronically supported and linked. In electronic business, in addition to sales and purchase processes, supply and production also depend on electronic environment (Zuccato, 2007). In recent years researchers have paid more attention to the importance of technology of rendering and accepting electronic services in banking industry (Dauda & Lee, 2015). Banking industry has changed from conventional telephone banking to electronic banking and subsequently to Internet banking (Chang et al., 2006). Acceptance of the Internet and electronic banking has had great effects on absorbing customers and has led to a rise in banking activities, offering more services, attracting more investments, and balancing debts (Dauda & Lee, 2015). Banking industry has been affected by information and communication technology revolution and has therefore developed and multiplied its channels to render services. These ongoing changes has given importance to the use of modern channels of rendering services. Therefore, banks must manage these changes and try to have positive effect on their customers' behaviour and attitude. Moreover, it is a fact that banks have greatly invested on modern technologies, and if customers do not use these technology banks will be in great loss. In general, different factors affect the acceptance of electronic banking by the customers, some of which are demographic features, motivation, and customers abilities and attitudes. Banks have greatly use technologies in offering services as methods could support services are which where conventionally offered by staff members of banks. But these technologies can only improve performance when accepted by both customers and staff members (Zhu & Chang, 2014).

Review of Related Literature

In this section, related domestic and international studies have been presented.

Yavarzadeh & Azadeh (2015) have conducted the research and studied that effect of knowledge management and customer relationship management in Saderat bank, Tehran Supervision headquarters. Research findings indicate that knowledge management through sources of knowledge have positive and significant effect on different aspects of customer relationship management, i.e., Customer satisfaction, customer loyalty, customer absorption, and interaction with customers. Tabari et al (2015), in a research, investigated the customer satisfaction related management system in banking system. The results show that the customer relationship management system can help retain present customers and absorb new ones. Banks use some methods including customer relationship management, customer value analysis, organizational strategy, and services mechanisms which improve customer relationship efficiency. Customer relationship management is a strategy to absorb new customers and to retain them. Customer relationship management involves operations including all direct customer-related activities. In other research, Najafi et al (2015) conduct of the research titled: "A study of the effect of implementing electronic customer relationship management on customer relationship quality in Mellat bank in Arak." The subjects of this research were customers of Mellat bank in Arak city who have come to this conclusion that electronic customer relationship management has positive effect on the quality of services, the



quality of customer relationship, and on the performance of the bank. Moreover, quality of customer-oriented services has positive effects on the quality of customer relationship, and eventually the quality of customer relationship has positive effects of the performance of the bank. Yazdani (2015), in another research, investigated the customer relationship management system in banking system. The results showed that through customer relationship management, banks can shorten the sales cycle and increase the customer loyalty in establishing closer relationship and accordingly increase the income. Josiassen et al (2014) conducted the research titled: “Do all dimensions of CRM affect the performance of companies?” Results showed that all the three dimensions of CRM capabilities have positive effect on performance of hotels, while previous a researches, on the contrary, showed that making investments on CRM did not have positive effect on performance of hotels, but there is a significance relationship between accountability and performance in larger company. Another research conducted by Santoso & Erdaka (2015) investigated customer loyalty in Common Consumption Model in customer relationship management for services offered on Electronic Commerce related system in Indonesia. Findings show that initial understanding of benefiting from advantages, initial delays, and initial monetary value have remarkable effect on customer loyalty which can be measured by the number of profound transaction and customer’s lifetime. Navidipour & Soltani (2016), in their research, investigated the effect of costs, acceptance of technology, and customer satisfaction on customer relationship management systems efficiency. Results showed that acceptance of technology in organizations with infrastructural capabilities, ease of use, and electronic timing systems positively affect the efficiency of electronic customer relationship management.

Conceptual Research Model

In order to investigate the acceptance of technology in organizations various models have been proposed. The muddled chosen in this research was proposed by Wu (2005). This model is said to be complementing technology acceptance models proposed prior to the research conducted by Wu (2005).

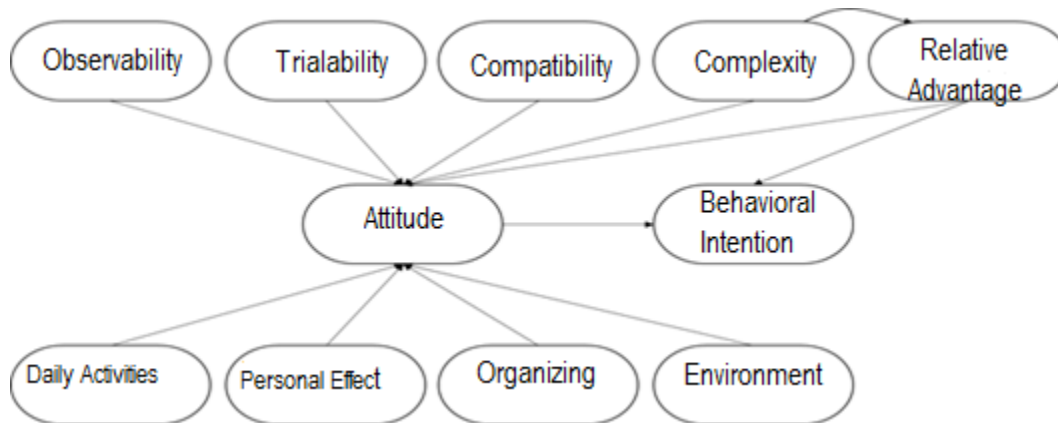


Figure 2. Conceptual model

Based on the research model, the following hypotheses are investigated:

- The attitude has a significant effect on behavioural intention in using E-CRM
- Trialability have a significant effect on the attitude in using E-CRM

- Relative advantage has a significant effect on the attitude in using E-CRM
- Complexity has a significant effect on the attitude in using E-CRM
- Compatibility has a significant effect on the attitude in using E-CRM
- Observability has a significant effect on the attitude in using E-CRM
- Daily activities have a significant effect on the attitude in using E-CRM
- Personal qualities have a significant effect on the attitude in using E-CRM
- Organizing has a significant effect on the attitude in using E-CRM
- Environment has a significant effect on the attitude in using E-CRM
- Complicatedness has a significant effect on the proportional advantage in using E-CRM
- Proportional advantage has a significant effect on behavioural intention in using E-CRM

RESEARCH METHOD

The research methods is descriptive applied library search. The data was collected through a standardized questionnaire whose validity and reliability were approved. The subjects of this research where all the branch manager and their assistants and the officers working at northern Tehran branches of Saderat bank. There were 218 subjects chosen based on Kukran formula through random selection. A standardized questionnaire was used as a data collecting instrument taken from the research conducted by Wu (2003). This questionnaire is used to measure relative advantage, complexity, compatibility, observability, trialability, daily activities, personal, organizing, environment, attitude, and behavioural intention. SPSS 22 and Smartpls 3 software were used for data analysis purposes.



RESEARCH FINDINGS

Investigating Theoretical Models Test in PLS

Table 2. Symbols

No	Variable	Symbol	Number of questions
1	Relative advantage	RA	4
2	Complexity	CL	3
3	Compatibility	CB	3
4	Observability	OB	3
5	Trialability	TR	3
6	Daily activities	DA	3
7	Personal	PE	4
8	Organizing	OR	5
9	Environment	EN	3
10	Attitude	AT	5
11	Behavioural Intention	BI	4

Composite Reliability of the Constructs

In order to investigate the composite reliability of each of the constructs Dillon-Goldstein coefficient (pc) was used. As PLS, unlike multiple regression, uses the subjects' scores to do the analyses, it is essential to consider their load and weight of each of these in calculating

reliability. Meanwhile Cronbach Alpha coefficient gives equal weight to each and shows a lower reliability. Accordingly pc coefficient was used (Manuel et al, 1996). Acceptable pc values must be the equal to or above 0.7 (Fornell & Larcker, 1981).

Table 3. To Composite Reliability Values

Composite reliability test for every latent construct of the questionnaire	
Question	Has the designed questionnaire have acceptable composite reliability?
research hypotheses	Null hypothesis: the research questionnaire has an acceptable composite reliability
	Directional hypothesis: the research questionnaire does not have an acceptable composite reliability
Statistical hypotheses	H0: composite reliability ≥ 0.70
	H1: composite reliability < 0.70
Composite reliability	Variables
0.927426	AT
0.861337	BI
0.855639	CB
0.832721	CL
0.862563	DA
0.818597	EN
0.88407	OB
0.773529	OR
0.809096	PE
0.855598	RA
0.865764	TR
Test results	As the composite reliability values for each of the latent variables is more than 0.7, it can be concluded that null hypothesis is approved. This means that the composite reliability of the distributed questionnaire is at a good level.

Checking the Construct Validity

Fornell & Larcker (1981) propose two measures to check the validity

- Convergent Validity (including Confirmatory Validity Test and test of Average Variance Extracted (AVE))
- Discriminant Validity (including Fornell & Larcker test)

Convergent Validity

If the t value of the indicators of the studied constructs is smaller than 1.96, they are not significant enough to be used for measurement purposes. Therefore, they must be ignored in the process of analysis; on the other hand if the t value of the indicator is above 1.96, they will be taken into account in the process of analysis. In this case this indicator is precise enough to be used for measuring the construct or the quality. The following table shows the t value for indicators of each construct.

Table 4. t Values for Validity Approval Purposes in the Measurement Model

	Factor loading	t value	Result
AT1<-AT	0.8668	27.8668	Approved
AT2<-AT	0.8251	19.1588	Approved
AT3<-AT	0.8202	20.2839	Approved
AT4<-AT	0.874	32.6799	Approved

AT5<-AT	0.8519	22.506	Approved
BI1<-BI	0.6246	5.57	Approved
BI2<-BI	0.7547	10.4334	Approved
BI3<-BI	0.8672	26.0119	Approved
BI4<-BI	0.8582	27.6578	Approved
CB1<-CB	0.7556	11.7176	Approved
CB2<-CB	0.834	20.0059	Approved
CB3<-CB	0.8527	24.3568	Approved
CL1<-CL	0.8489	14.8191	Approved
CL2<-CL	-0.1621	1.0216	Failed to be approved
CL3<-CL	0.8388	15.4033	Approved
DA1<-DA	0.8348	24.7991	Approved
DA2<-DA	0.8432	20.8825	Approved
DA3<-DA	0.789	12.8995	Approved
EN1<-EN	0.7613	10.7504	Approved
EN2<-EN	0.84	20.3924	Approved
EN3<-EN	0.7209	9.7193	Approved
OB1<-OB	0.847	21.74	Approved
OB2<-OB	0.8206	15.3144	Approved
OB3<-OB	0.8733	29.2842	Approved
OR1<-OR	0.6156	5.2752	Approved
OR2<-OR	0.5976	6.7664	Approved
OR3<-OR	0.6165	5.2752	Approved
OR4<-OR	0.6837	8.5843	Approved
OR5<-OR	0.6701	9.8736	Approved
PE1<-PE	0.6885	6.5443	Approved
PE2<-PE	0.6956	6.9705	Approved
PE3<-PE	0.7762	12.3756	Approved
PE4<-PE	0.7069	7.1966	Approved
RA1<-RA	0.7033	7.9078	Approved
RA2<-RA	0.8336	17.7792	Approved
RA3<-RA	0.7724	15.4379	Approved
RA4<-RA	0.778	14.3815	Approved
TR1<-TR	0.8317	23.7118	Approved
TR2<-TR	0.8129	17.7322	Approved
TR3<-TR	0.8337	24.187	Approved

As the t values for question CL2 are smaller than 1.96, this question will be omitted from the research. The same process will be repeated for the remaining questions.

Table 5. t Values for Validity Approval Purposes in the Second Modified Model in the Measurement Model

	Factor loading	t value	Result
AT1<-AT	0.233719	21.012511	Approved
AT2<-AT	0.221687	17.578176	Approved
AT3<-AT	0.246527	16.960006	Approved
AT4<-AT	0.247428	17.861381	Approved
AT5<-AT	0.23012	24.582097	Approved
BI1<-BI	0.264399	4.041686	Approved
BI2<-BI	0.267309	5.282234	Approved
BI3<-BI	0.348831	8.353729	Approved
BI4<-BI	0.385243	8.898448	Approved



CB1<-CB	0.407961	9.197335	Approved
CB2<-CB	0.420302	10.555969	Approved
CB3<-CB	0.400147	10.571248	Approved
CL1<-CL	0.604419	9.059676	Approved
CL3<-CL	0.57936	8.265638	Approved
DA1<-DA	0.434541	10.690112	Approved
DA2<-DA	0.415905	11.678883	Approved
DA3<-DA	0.363212	9.401858	Approved
EN1<-EN	0.416362	6.88583	Approved
EN2<-EN	0.489515	9.140153	Approved
EN3<-EN	0.377042	7.73959	Approved
OB1<-OB	0.373513	10.536544	Approved
OB2<-OB	0.391067	10.068043	Approved
OB3<-OB	0.415361	12.228343	Approved
OR1<-OR	0.31493	5.520017	Approved
OR2<-OR	0.275695	4.651076	Approved
OR3<-OR	0.292271	4.515899	Approved
OR4<-OR	0.363336	5.655786	Approved
OR5<-OR	0.317503	6.052644	Approved
PE1<-PE	0.405108	3.871025	Approved
PE2<-PE	0.289684	3.461024	Approved
PE3<-PE	0.342964	4.440311	Approved
PE4<-PE	0.358383	3.535639	Approved
RA1<-RA	0.327607	7.700513	Approved
RA2<-RA	0.351083	9.524984	Approved
RA3<-RA	0.307866	7.337222	Approved
RA4<-RA	0.307383	8.147301	Approved
TR1<-TR	0.404241	10.781791	Approved
TR2<-TR	0.397529	11.526619	Approved
TR3<-TR	0.408569	12.525714	Approved

As it can be seen the t values for all questions is more than 1.96. Therefore, the construct validity shows that the remaining indicators provide appropriate constructs for measuring the studied aspects in the research model.

Average Variance Extracted

Accordingly the third indicator to check the validity, is the average variance extracted (Fornell & Larcker, 1981). Fornell & Larcker recommend values more than 0.5 for AVE. This means that the certain construct meets its indicators variance as much as 50% or more (Chin, 2010).

Table 6. Checking AVE Values

Diagnostic Validity test (Average Variance Extracted Method) for every latent construct of the questionnaire	
Question	Has the designed questionnaire have acceptable diagnostic validity?
Research hypotheses	Null hypothesis: the research questionnaire has an acceptable diagnostic validity
	Directional hypothesis: the research questionnaire does not have an acceptable diagnostic validity
Statistical hypotheses	H0: AVE \geq 0.5
	H1: AVE < 0.5
AVE	Variables
AT	0.718901
BI	0.612058

CB	0.66454
CL	0.713401
DA	0.676771
EN	0.601648
OB	0.717802
OR	0.506542
PE	0.515051
RA	0.597842
TR	0.682554
Test Result	As the AVE values for each of the latent variables is more than 0.5, it can be concluded that null hypothesis is approved. This means that all of the constructs have been well separated.

Discriminant Validity

- Fornell-Larcker Criterion (studying the correlation between latent variables)

In PLS Software, Discriminant validity is measured in two ways: 1) Cross-loading method and 2) Fornell-Larcker Criterion where the relationship between a construct and its indices is in comparison with their relationship between that construct and other constructs. The present research has used Fornell-Larcker Criterion to measure the discriminant validity shown in the table below. Like the other two criterion, validity measures the diagnosis validity at latent variables level. According to this criterion, a latent variable, as compared to other latent variables, must have a higher dispersion among its constructs. The second criterion is that the square root of AVE of a construct must be greater than the correlation of that construct with other constructs. This shows that the correlation of that construct with its indicators is greater than its correlation with other constructs.



Table 7. The Values of Square Root of AVE and the Correlations

	AT	BI	CB	CL	DA	EN	OB	OR	PE	RA	TR
AT	0.8478803										
BI	0.475672	0.7823414									
CB	0.693151	0.456544	0.8151932								
CL	0.475178	0.351426	0.472257	0.8446307							
DA	0.651892	0.338878	0.409064	0.305535	0.8226609						

EN	OB	OR	PE	RA	TR
0.633704	0.627875	0.668198	0.439591	0.602076	0.690505
0.438911	0.189429	0.438134	0.417617	0.491496	0.214246
0.48093	0.49181	0.456669	0.189398	0.48919	0.459471
0.175121	0.337923	0.306019	0.082853	0.422161	0.317961
0.389285	0.286516	0.515368	0.352509	0.447082	0.3851
0.7756597	0.319034	0.58009	0.319182	0.398973	0.405961
	0.847232	0.314459	0.019289	0.279716	0.727035
		0.7117176	0.43384	0.45745	0.34573
			0.7176705	0.265248	0.114384
				0.7732024	0.343123
					0.8261683

As in each line, the entry on the main diameter is greater than other entries on the same line (i.e., the correlation of that construct with its own indicators is greater than its correlation with other constructs), the validity of the latent constructs is approved.

Testing Research Hypotheses

In this section, firstly the hypotheses mentioned in chapter one were tested, and then the main research question was analyzed. As every question on the questionnaire has a score, the average of the scores was used in order to answer the hypotheses. In order to test the conceptual model and the research hypotheses, structural equations model based on the partial least square method was utilized. Smart PLS software was used accordingly.

The following figure, a conceptual model in Smart PLS software, shows the relationship between the factors defined in the research. The conceptual model shows the relationships between the variables whose accuracy or inaccuracy has not been tested against empirical data.

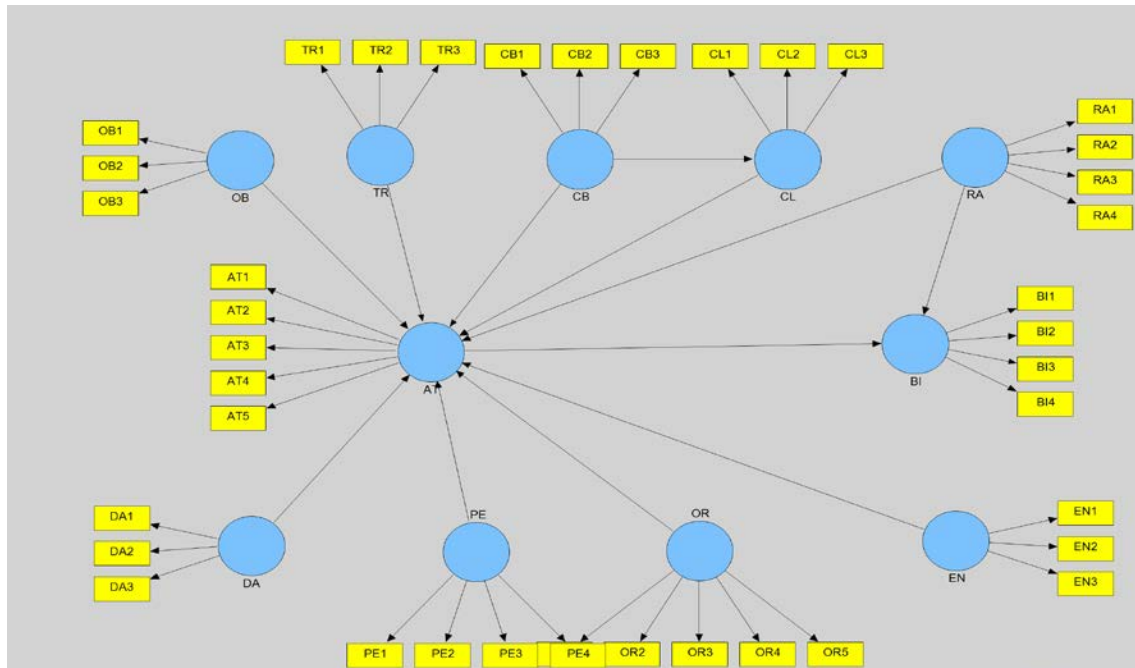


Figure 3. Conceptual Model in the Software

Conceptual Model Test in PLS

R^2 Criterion

Reliability and validity of the external model estimates allow evaluation of internal path model estimates. The essential criterion for assessing coefficient of determination structural model (R^2) is the exogenous latent (dependent latent) variables). Chin (1998) describes values 0.67, 0.33, 0.19 for the exogenous latent as remarkable, average, and weak respectively. If the constructs of a certain internal model explain exogenous latent variables only with 1 or 2 endogenous latent (independent latent), an average R^2 of 0.33 is acceptable. But if the exogenous latent variables depend on several endogenous latent variables, then the value of (R^2) must be at least at the acceptable level of 0.67. Coefficient of determination values for dependent latent variables of the research are shown in table 7.

Table 7. Determination Coefficient Values

Dependent latent variables	R^2
AT	0.865723
BI	0.292253
CL	0.223027

Significance of Coefficients

Figure 4, shows the observed and the latent variables as well as the path coefficients and loads. The numbers that can be seen between the latent variables of the model (variables shown in oval shape) and observed variables (variables in rectangular shapes which are the latent variables subcomponent) indicate the loads. The equations defined among the latent variables are the very research hypotheses, and the numbers shown on these equations are the path coefficients.



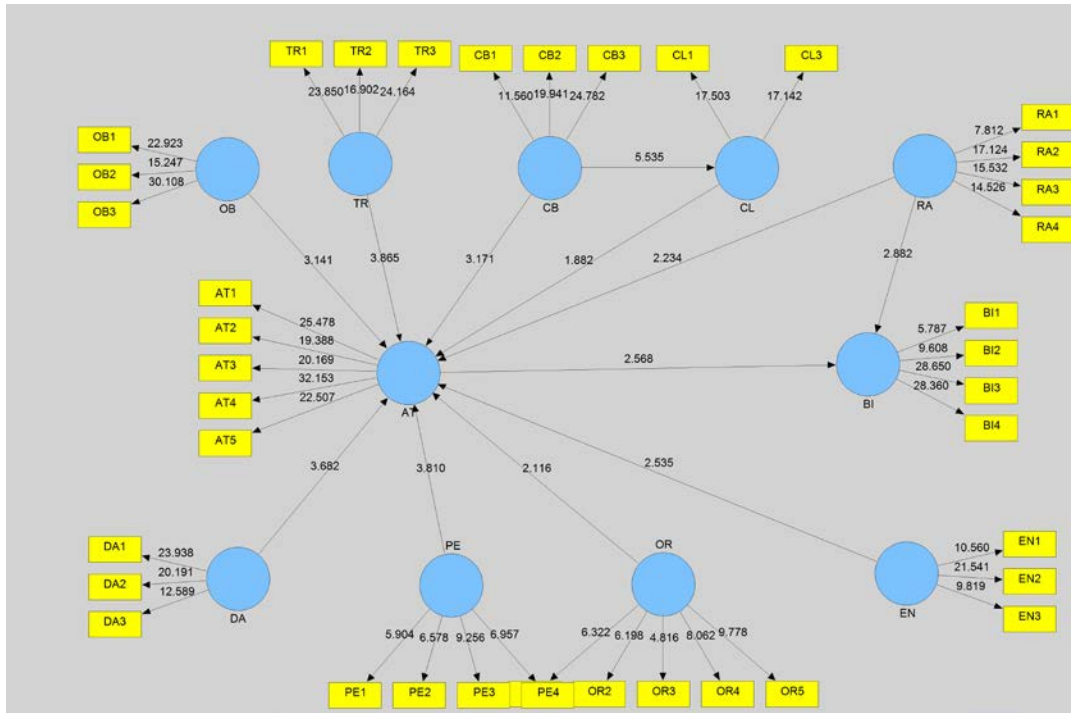


Figure 4. Tested Research Model (t values, path coefficients, and factor loadings)

Testing Research Hypotheses

Table 8. Testing Research Hypotheses

		Path coefficient	t value	Result
Attitude -> Behavioral intention	AT -> BI	0.281964	2.568011	Approved
Compatibility -> Attitude	CB -> AT	0.175107	3.171429	Approved
Compatibility -> Complexity	CB -> CL	0.472257	5.535179	Approved
Complexity -> Attitude	CL -> AT	0.078593	1.88248	Failed to be Approved
Daily Activities -> Attitude	DA -> AT	0.18743	3.682232	Approved
Environment -> Attitude	EN -> AT	0.142002	2.535487	Approved
Observability -> Attitude	OB -> AT	0.180869	3.140943	Approved
Organizing -> Attitude	OR -> AT	0.123544	2.116099	Approved
Personal Effect-> Attitude	PE -> AT	0.176116	3.809893	Approved
Relative Advantage -> Attitude	RA -> AT	0.112722	2.23399	Approved
Relative Advantage -> Behavioral Intention	RA -> BI	0.321732	2.881537	Approved
Trialability -> Attitude	TR -> AT	0.222199	3.865379	Approved

As the table shows, the coefficient of attitude on behavioral intention in using E-CRM is also equal to 0.281964 and the t observed value is 2.568011. Since the t value in the resulting construct (2.568011) is greater than the t value at 95% level (1.96), therefore, the hypothesis which says there is a significant relationship between attitude and behavioral intention using E-CRM at 95% level. Moreover, the extent of coefficient between the two variables is positive. This means that as the attitude improves, the behavioral intention using E-CRM also improves. The results for other hypotheses are also shown in the table.

SUGGESTIONS

- As there is a significant effect for the attitude on behavioral intention using E-CRM, it is suggested that bank managers provide their staff members with instructions and manuals to familiarize them with the benefits and the use of customer relationship management systems. It is also suggested that the Saderat bank inform their staff members of positive results emanating from implementing these systems in domestic and international banks so that these results can affect their attitudes towards E-CRM positively.
- As there is a significant effect for the trialability on the attitude towards E-CRM, it is suggested that Saderat bank managers classify their staff members based on their abilities in learning, and provide them with opportunities to learn E-CRM. This causes the staff members to have better attitude while using these systems.
- As there is a significant effect for the relative advantage on the attitude towards using E-CRM, it is almost unanimously agreed that there is an advantage for the electronic customer relationship systems, yet it is necessary to provide partial awareness to the staff members on the improvements made by these systems.
- As there is a significant effect for compatibility on the attitude towards using E-CRM, one of the most important worries of the people in facing new technologies is how they can make their activities compatible with the new methods provided in these technologies. Therefore, it is suggested that, before they take any actions in implementing these technologies, banks train their staff members in doing so.
- As there is a significant effect for observability on the attitude towards using E-CRM, it is suggested that bank managers hold regular meetings in order to provide reports on the results of implementing these systems. This will lead to the actual implementation of these systems.
- As there is a significant effect for daily activities on the attitude towards using E-CRM, it is suggested that the staff members of the bank share their experiences in using electronic customer relationship systems so that they can manage their daily activities well.
- As there is a significance effect for personal qualities on the attitude towards using E-CRM, it is clear that the personal qualities of different individuals are different from each other and there is no single prescription for everyone. Therefore, it is suggested that managers apply much care in assigning responsibilities, which have been created because of the emergence of new customer relationship systems in organizations, and take the knowledge and information of the staff members into account.
- As there is a significant effect for organizing on the attitude towards using E-CRM, it is clear that the use of modern technologies in customer relationship is not necessarily useful in all organizations. Perhaps the emergence of these technologies can cause a change in the general construct of the organization and negatively affect the performance of the staff members. Therefore, it is suggested that, in order to prevent these general changes to occur, this system be implemented tentatively and in case of positive feedback it can be used in other parts of the organization.



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