

## Developing Ethical Competence for Electronic Banking of Tejarat Bank

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The purpose of this research is to present a structural equation model for ethical competence in electronic banking. The research is descriptive and conducted through a survey. In the qualitative phase, the statistical population includes professors and experts in the field of electronic banking and also senior managers working in Tejarat Bank. They have been chosen using purposeful sampling technique and the data collection reached saturation after 11 interviews. In the quantitative phase, based on krejcie and Morgan table, among 435 experts in charge of marketing and modern services in Tejarat Bank, 205 are chosen by simple random sampling method. The data collection instruments in qualitative phase are the two semi-structured interview and document review approaches. In quantitative phase, samples fill out made-questionnaires. Results suggest that the ethical competence model in electronic banking consists of 3 dimensions (beneficiaries, social responsibility and information technology), 9 major components (employees, shareholders, clients, rivals, ethical responsibility, economical responsibility, voluntary responsibility, legal responsibility and information technology) and 56 minor components.

**Keywords:** Ethics, Moral Banking, Moral Competence, Ethical Competence Model.

**JEL Classification:** G63, M10, M53

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## 1 Introduction

Nowadays, we cannot consider a banking system without information technology and communication, which has expanded the role of banking sector in the economy. The financial transactions are now processed fast and easy. The banks with the latest techniques are more successful in the competitive financial market. They have been able to generate more businesses resulting in greater profitability (Mundhe, 2016). E-Banking is one of the big achievements in e-business, with the growing volume of e-commerce in the world, and according to the need of businesses to easy, fast and accurate banking operations to transfer funds, E-Banking plays a crucial role in e-commerce and economic development. E-banking is now a global phenomenon. It is an invaluable and powerful tool driving development, supporting growth, promoting innovation and enhancing competitiveness (Rahman et al., 2017).

New technology brings benefits and risks and new challenges for human governance of the developments (Hamelink, 2000). Harnessing the technology necessary for E-Banking is just the first of the challenges faced by the sector. Equally important is the development of the necessary management skills to ensure the sustained success of the new processes. Intertwined in the functional perspectives of marketing, human resource management and strategic planning are the ethical perspectives. One of the new management perspectives that will contribute to long-term success in electronic commerce is the associated moral responsibility of banking organizations and their stakeholders. Because electronic commerce is still developing and is rapidly changing, there is very little experience or agreement on its related ethical issues (Turban, et al., 2000). Meanwhile observance of ethics principles in any subject and field is highly important and must never be neglected in the scope of personal and social life of people. Ethical issues particularly become extra important when pertaining to financial and monetary tasks. Because electronic commerce is still developing and is rapidly changing, there is very little experience or agreement on its related ethical issues (Turban, et al., 2000).

Online Banking has changed the way how the traditional banking industry interacts with banking customers. It is imaginable that users of information technology face endless ethics problems; the problems which specifically arise in connection with gaining profit and creation of value for society (Paulet, 2011). This responsibility is undertaken by electronic banking system. Since electronic banking is still undergoing development and transformation, little experience is available regarding presence of ethical principles in this

field. Nonetheless, due to undeniable role and importance of this technology in fiscal and monetary tasks, economical and organizational advantages of this novel technology cannot be doubted but there is generally concerns about the style through which information technology transforms the social scope and especially the ethical issues.

Since e-banking is a new technology that has much potentials, users are hesitant to use the system. The use of e-banking has brought many concerns from different perspectives: government, businesses, banks, individuals and technology (Omariba et al., 2012).

According to Article (1) of The Law for Usury (Interest) Free Banking, one of the objectives of banking system is the establishment of a monetary and credit system based on rightness and justice (as delineated by Islamic jurisprudence) for the purpose of regulating the circulation of money and credit to enhance the health and growth of the country's economy. Also creation of necessary facilities for the extension of cooperation and Qarz Al-Hassaneh among the general public is another objective. Facilities are created through the attraction and absorption of surplus funds, reserves, savings and deposits, and the mobilization thereof in provision of conditions and opportunities for gainful employment and investments, as stipulated in Clauses (2) and (9), Article (43) of the Constitution.

The Islamic banking system, as an ethical claimant system, has been able to play an indispensable role in the field of Institutionalization of Banking Ethics (Shabani, 2016). So e-banking raises concerns regarding secret movement toward fictitious transactions, contracts' deviation, money laundering, loan contracts' deviation from defined legal procedure and spread of usury, confidentiality and secret-keeping (Bashir and Herati Nik, 2011), data manipulation and financial cheating (Ramezanali, Bahri Sales, Asgar Pakmaram, 2010), error occurrence in financial transactions (Raju, 2014), failure to comply ethical and Islamic principles and etc. Although economical and organizational advantages of this novel technology cannot be doubted but there is generally concerns about the style through which information technology transforms the social scope and especially the ethical issues (Sohrabi & Khanlari, 2009).

Failure to abide by the norms of ethics and, in some cases, lack of business transparency was among the reasons that caused the global financial crisis, which has led to banking troubles for some countries. Some of the moral and ethical failures of the financial industry, focusing on those that led directly to the financial crisis of 2007–2008 are ethical failures in subprime lending,

ethical failures among the subprime lending banks, ethical failures in auction rate securities and ethical failures among the GSEs<sup>1</sup>.

Confidence is a key to successful banking. Banks only work well when the public trust them. Matters relating to business ethics have been addressed in detail by domestic and foreign business people. However, the principles of ethics in banking have never been given too much attention.

In today's banking, like in any other type of business, everything rests on relations: banks' relations with clients, employees, business partners and the state. Business success depends on the morals of entrepreneurs and on the trust earned on that basis.

Vyšniauskienė and Kundrotas (2002) defines the ethics of business as the domain of ethics that results from the interaction of business and ethics, which is the whole of the principles, norms and rules of morals that aid the world of business. The work of many authors has led to the development of the conception that ethical behavior equals adherence to the norms of ethics.

Ethical behavior is one that does not violate the interests of others and does not aggravate the situation. The banking experience shows that success is driven by high ethical standards when it comes to the quality of services, the culture of customer service, the management, and the qualifications of the staff and the appreciation of their work (Jasevičienė, 2012). Electronic banking, as one of the new subjects having both technological and financial aspects, is considered as the focus of concerns for attracting observance of ethics principles in the modern times. This subject has preoccupied the minds of considerable number of ethics-in-engineering thinkers (Raju, 2014).

Tejarat Bank as one of the biggest and most effective active commercial banks plays an undeniable role in development of national economy. This bank has set ethics orientation, concentration on social responsibilities and total execution of Islamic banking as its main goals and has always tried to observe Islamic and ethical principles in planning and development of new banking services.

Since Tejarat Bank aims to increase its market share and improve satisfaction level of beneficiaries and partners through fulfillment of professional, legal and ethical responsibilities and commitments, this research sets out to provide a structural equation model for e-banking ethical competence in Tejarat Bank by means of identifying ethical components in e-banking industry.

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<sup>1</sup> GSEs are Government Sponsored Entities like Fannie Mae and Freddie Mac.

Statistical methods like exploratory factor analysis and confirmatory factor analysis are used. To develop a suitable model, Structural Equation Modeling (SEM) technique is used for analyzing the data. All the measures used in structural equation modeling fit the recommended values indicating a good fit for the collected data.

First, the literature on the topic is studied. Then the theoretical foundations and the model and indices of the measurement are introduced. In the third section, the model variables are estimated. In the final part, the results and recommendations are presented.

## **2 Theoretical Foundations and Literature Review**

### **2.1 Theoretical Foundations**

The 21st century is governed by a new watchword: interdependence. Economies and cultures are now so intertwined that the pursuit of advantage in one quarter based on self-interest without due regard to its impact on others can set off a chain reaction that ultimately bedevils everyone. In this environment the old has become new again.

The ethical rules of the past acquire a new and urgent prominence in the present. We are challenged as individuals, organizations and society to become ethically competent. To be competent means having sufficient ability to perform at an acceptable standard. These are all subjective terms. What is sufficient? How much is acceptable? What is the standard? The answers come slowly and indirectly out of conflict and consequences. We are therefore in the process of defining what it means to be ethically competent in an interdependent world. A further challenge is speed. In large measure, local and global interdependence are driven by the speed of communications and the rapidity with which new knowledge replaces old. Under such conditions foundational beliefs of what is right or wrong become both urgent and important to avoid a precipitous slide into chaos. The Ethical Competence Framework provides a way to do this. It builds on the concept of the Emotional Competence Framework presented by Goleman in *Working with Emotional Intelligence* (New York: Bantam Books, 1998).

The Ethical Competence Framework incorporates three dimensions of competence, beginning with the personal and moving through social competence to global competence.

The idea of the use of the ethical competence concept as a development of knowledge and skills can be reached with the hierarchy of competence, the approach of Know-Can-Do, in which the first dimension includes the body of

the knowledge needed to identify ethical dilemmas, the second dimension includes analyzing of the conflict and being sensitive to competing values and principles and the third one is ensuring the decisions to come true (Larkin, 1999).

The ethical competence concept is also used in the context of a Communicative-Based Model, which suggests being (virtues), doing (rules and principles) and knowing (critical reflection) to be the elements in the development of ethical competence, as well as in Sandman's teleological model.

Moral refers to standards of behavior followed by individuals, including rules and individual values. Ethical refers to a science or study of morals, ethical principles and decision-making skills. Investigating the concept of ethical competence is internationally relevant. In the European Qualifications Framework, the European Commission describes ethical competence as meta-competence, an integral part of knowledge, skills and competence, and as essential for the development of responsibility and autonomy.

Paganini and Egry (2011) states that, 'competence is a condition of performance, being the underlying mechanism which permits the integration of many types of knowledge and acts necessary to the realization of a task. Kavathatzopoulos and Rigas (1998) provide yet another list of necessary knowledge, skills, and attitudes and abilities an ethically competent person needs.

According to these authors, an ethically competent person "must have (a) high ethical awareness, the ability to anticipate ethical problems in real life and to perceive them in time; (b) the cognitive skill to analyze and solve them in an optimal way; (c) the capability to discuss and handle moral problems at group and organizational levels and, together with significant others, formulate ethical principles and guidelines; (d) the power to argue convincingly for preferred actions or decisions made; and (e) the strength to implement controversial decisions.

The ethics of banking encompass the norms and principles of morals that regulate the behavior in the banking business. Just like in any other type of business, ethics in banking is a reflection of the ethical norms that are prevalent in society (Jasevičienė, 2012).

Quite often, the ethics of banking do not call for applying new rules. In the meantime, the existing rules are too simple and do not meet the requirements of ethics. Ontologism based on the concept of good as opposed to evil helps us define the banking business from the point of view of ethics. The idea of

awareness or conscience of the need for banking products or services inevitably comes to mind.

This simplified parallel leads us to the conclusion that full awareness of and the related ethics about the importance of banking products and services is imminent to all economies, regardless of their economic development. The basic ethical principles in banking are: mutual trust, mutual benefit and interest<sup>1</sup>, good intentions<sup>2</sup>, business compromise and business tolerance<sup>3</sup>, ethical improvement of business behavior represents the business partner's readiness to accept the mistake that has been made as a result of his own actions, conflict between one's own interests<sup>4</sup> (Raju, 2014).

Islamic ethical principles are as follows: obedience, honesty, meritocracy, function control and assessment, planning, foresight and discipline, observance of others' rights and avoidance of extravagance (Talebi & Kiaie, 2013).

Eivazlou and Ghilich (2015) categorize ethical banking foundations into three domains: intra-banking, inter-banking and meta-banking.

**Intra-banking:** this domain refers to observance of Islamic ethics' values and principles in terms of preservation of mutual rights of managers and employees, bank and customers and bank and shareholders. These values and principles include: Observance of customer orientation's principles, secrecy about secret information, observance of laws, rules and regulations, secrecy about customers' information and etc.

**Inter-banking:** this domain refers to observance of Islamic values and principles in relations among banks. Among them are: following rules and regulations of central bank, observance of religious and legal requirements in inter-banking exchanges, fair and legal competition and etc.

**Meta-banking:** this domain refers to observance of Islamic values and principles in relations between banking system and other sectors of society. Avoidance of financing companies which pollute environment, fair distribution of banking services across the country, preservation of environment and etc.

Examples of Iran and World Bank's Code of Conduct:

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<sup>1</sup> means that none of the partners in a business relationship should feel cheated

<sup>2</sup> that there is no intention to treat the business partner in an immoral way, whether it refers to deception, theft or some other undesirable way of treating a business partner

<sup>3</sup> refers to the harmonization of the conflicting interests of participants in the business process

<sup>4</sup> refers to the inability to relate common to personal interests, with simultaneous adherence to the same ethical values

HSBC's values define who they are as an organisation and what makes us distinctive. They believe in acting with courageous integrity. They are: Dependable, Open to different ideas and cultures, Connected to customers, communities, regulators and each other, Standing firm for what is right, delivering on commitments, being resilient and trustworthy. Their business is based on trust.

Alliance Bank Malaysia Code of Conducts include: 1. Compliance with laws, regulations, internal policies and procedures, 2. Report breaches, 3. Avoid conflict of interest, 4. Corporate Directorships /partnerships, 5. Misuse of information and insider trading, 6. Integrity of records and transactions, 7. Respect customer confidentiality and data privacy, social media ethics. (Ghilich, 2015)

Mellat Bank Iran Code of Conducts include: social responsibility, comply with rules and regulations of government, the Central Bank, and other appropriate regulatory agencies, consistency and integrity, common interest, keep confidential information safe and secure, bailment, effective listening and responding, fair competition with competitors, healthy business interactions, courtesy, accuracy and speed.

Tejarat Bank Code of Conducts include: social responsibility, honesty and thoroughness, maintaining a respectful workplace, customer orientation, keep confidential information safe and secure, commitment to control and manage financial crime risk, mutual trust, honesty and integrity.

## 2.2 Review of Literature

Raju (2014), In a study titled "Ethical Issues in E-Banking – Its Role & Impact", analyzes one of the most important upcoming challenges of electronic banking, it is attempted to propose a model that is capable of monitoring ethics issues in electronic banking and provides the possibility for dealing with them consciously. Based on the findings, the individuals, organizations, and banks using information technology are recommended to present a strategic program for resolving ethics issues discussed in the research.

Abreu et al. (2015), in a study titled "Ethics and Fraud in E-banking Services" demonstrate the importance of ethics applied to everyday moral problems arising from the use of e-banking services. The results of the paper show several threats, vulnerabilities, incidents, impacts and response that face e-banking services. To mitigate these risks, the main challenge is the public discussion that will promote prevention and disclosure of evidence-based



incidents, not only to endorse an adequate behavior but also, to develop guidance on practical evidence on ethics and reduce fraud.

Dahl ,Jacob, & Mattsson, (2015), in a study titled “Ethics in the Bank Internet Encounter: An Explorative Study” discuss some ethical issues in the internet encounter between customer and bank. The results of the paper show lack of competency in internet banking causes a severe damage on the experience of the ethics of the good life and of the respect for the basic ethical principles of customer autonomy, dignity, integrity and vulnerability.

Bidabad and Sherafati (2016) in a study titled “Operational Ethical Banking in Rastin Banking: (Professional Ethics, Auditing, Inspection, Control, Monitoring and Preservation)” discuss some of the operational Islamic banking features considered in ethical banking as the aspects of Rastin Banking. Ethical banking is a branch of “ethical economy” and a narrow expression of a number of Islamic banking aspects. The results of the paper show the principles of Rastin Banking, including operational, financial, economic, ethical, social, legal, international and organizational principles. Additionally, it takes into account some of the internal control systems

Eivazlou and Ghilich (2015) in a study titled “Ethical Banking, Lessons for the Iranian Banking System” conclude the ethical banking is a kind of banking activity that, in addition to the common goals of the banking system, seeks to improve the quality of life by respecting the rights of communities, maintaining the stability of the socioeconomic system, protecting the environment and raising the level of trust and confidence in the banking industry.

Eivazlou and Ghilich (2014), in a study titled “Codes of Ethics in the Banking System of the Country”, determine moral policy, compilation of codes of ethics, and structural measures as the axes of establishing a system of ethical banking. The codes of ethics defined in this research are categorized in three groups: intra-banking, inter-banking and meta-banking. Structural measures are also presented in four areas of information and education, monitoring and inspection, evaluation and ranking, and improvement of functions.

Eivazlou and Ghilich (2018), in a study titled “Methods of Establishing Ethical Banking in the Iranian Banking System”, introduce ethical banking and its objectives and strategies to make the banking system ethical in Iran. The results of the paper show the strategies for the implementation of ethical banking in the banking system of Iran which are proposed in three axes: "determination of moral policy", "elaboration of moral standards" and "structural measures". The first axis consists of three components: Islamic

standards and principles, macroeconomic policies and experiences of other countries. The second axis consists of three components: intra-banking, inter-banking and meta-banking ethics. Finally the third axis includes three components: information and education, assessment and ranking, and improvement of functions.

Matters pertaining to business ethics have been addressed in detail by domestic and foreign business people. The nature and essence of business ethics, the norms of moral behavior, the problems of ethics in business and ways to make ethical decisions have been investigated by Pruskus (2002).

Business ethics have been analyzed by Vyšniauskienė, Kundrotas (2002), Vasiljeviienė (2000, 2003), Koslowski (2008), Badaracco (1995), Lewis (1999), Paulavičiūtė (2004), De George (1990) and others. Meanwhile, the principles of ethics in banking have never been given too much attention (Koslowski, 2011).

Since electronic banking is still undergoing development and transformation, little experience is available regarding presence of ethics principles in this field. Nonetheless, due to undeniable role and importance of this technology in fiscal and monetary tasks, it is vital to identify the factors affecting the ethics principles. Analysis of works by foreign authors has revealed that many address the ethics of business, but no research has been done in Iran in this regard. However, there are almost no articles concerning the ethical competence, taking into account the significance of ethics in electronic banking and its ascending trend across the world. The current paper is attempted to propose a model for ethical competence in electronic banking.

### **3 The Research Model**

Based on the literature review; this research focuses on conceptual framework of ethical competence in electronic banking and its dimensions and components. This framework emphasizes factors such as security information, moral responsibility, voluntary responsibility, legal responsibility, economic responsibility, employees, customers, shareholders and competitors that are positively related to the ethical competence in electronic banking. These factors are made up of various attributes which have been discovered by literature review. Through systematic research methodology, backed by sound empirical methods, interaction relationships and dependency amongst these factors, in the context of ethical competence in electronic banking is determined. The conceptual framework of the proposed model is given in the appendix. The research model has three main dimensions of Beneficiaries,

Social Responsibility and Information Technology, 9 major components and 56 minor components (see appendix A).

#### **4 Methodology**

This is an applied and descriptive research based on structural equation modeling in terms of data gathering method. In the qualitative phase, the statistical population includes professors and experts in the field of electronic banking and also senior managers working in Tejarat Bank. They are chosen using purposeful sampling technique and the data collection reached saturation after 11 interviews. In the quantitative phase, based on Krejcie and Morgan table, among 435 experts in charge of marketing and modern services in Tejarat Bank, 205 are chosen by simple random sampling method. The data collection instruments in qualitative phase are the two semi-structured interview and document review approaches. In quantitative phase, samples fill out made-questionnaires for member control, exchange ideas with peers and self-monitoring, all have confirmed the validity of the questionnaire. Reliability and internal consistency of the questionnaire is measured by Cronbach's Alpha test. In addition, SEM (Structural Educational Modeling) is carried out to investigate the relationship among the variables that influence ethical competence in electronic banking.

#### **5 Findings**

Regarding the descriptive statistical results, the gender identification is largely male with 73.2% (n = 150) compared to 26.8% (n = 55) male-to-female ratio. 73.2% have a Bachelor's degree, 65.9% Master's degree and 1.5% PhD degree.

The measurement model needs to be assessed for construct validity, indicator reliability, convergent validity and discriminant validity.

Table 1  
*Results of Validity and Reliability Tests*

	<b>Variables</b>	<b>Factor Loading</b>	<b>CR</b>	<b><math>\alpha</math></b>	<b>AVE</b>
Beneficiaries	Employees	0.65	0.919	0.894	0.656
	Customers	0.56	0.895	0.858	0.590
	Shareholders	0.82	0.913	0.886	0.638
	Competitors	0.81	0.844	0.755	0.576
Information Technology	Security Information	0.87	0.920	0.900	0.666
Social Responsibility	Economic Responsibility	0.88	0.926	0.907	0.641
	Voluntary Responsibility	0.88	0.926	0.908	0.610
	Legal Responsibility	0.69	0.836	0.755	0.507
	Moral Responsibility	0.72	0.902	0.863	0.650

*Source:* Research Findings.

According to the method proposed by Andreassen & Gerbing (1988), the reliability, convergent validity and discriminant validity of the measurement model should be examined before the structural model test. Cronbach's Alpha coefficient and Composite Reliability index are used for testing the reliability of the model (Werts et al., 1974). Cronbach (1951) has determined the high standard of 0.7 for Cronbach's alpha and Larker & Fornell (1981) have determined the high standard of 0.7 for CR. Table (1) and the comparison of the above-mentioned standards show that the research constructs have good reliability. Factor loading's significance and the average variance extracted (AVE) have been used to determine the convergent validity.

Gefen & Straub (2005) suggest that the factor loading of each observed variable should be at least more than 0.7 and at 0.01 level of significance. However, if the number of markers is three or four, the markers whose factor loading is less than 0.7 is deleted (Bontis, 2001). Fornell and Larker (1981), propose the high value of 0.5 for AVE. According to Table (1) the vast majority of factors are greater than 0.7 and are significant at the level of 0.01 and less, and the value of AVE is greater than the standard level. Therefore, the convergent validity of the measurement model is desirable. The findings show that Cronbachs Alpha for all dimensions accessibility is above 0.70 (George & Mallery, 2003) which indicates a high level of internal consistency for the scale.

Discriminant validity is examined by comparing the square root of the average variance extracted of a construct with its squared correlations with

other constructs. As shown in the Table 2, the AVE root written in the matrix diameter is greater than its correlation with other constructs. Therefore, the research constructs have good discriminant validity.

Table 2  
Discriminant Validity of Constructs

Constructs	Em	Cu	Sh	Co	Se	Ec	Vo	Le	$\sqrt{AVE}$
Employees	1								0.81
Customers	0.352	1							0.768
Shareholders	0.551	0.393	1						0.798
Competitors	0.513	0.129	0.43	1					0.759
Security Information	0.542	0.391	0.706	0.466	1				0.801
Economic Responsibility	0.555	0.252	0.51	0.489	0.598	1			0.781
Voluntary Responsibility	0.638	0.409	0.544	0.399	0.585	0.495	1		0.712
Legal Responsibility	0.61	0.357	0.696	0.516	0.771	0.654	0.566	1	0.806
Moral Responsibility	0.604	0.326	0.764	0.535	0.771	0.662	0.601	0.707	0.816

Source: Research Findings

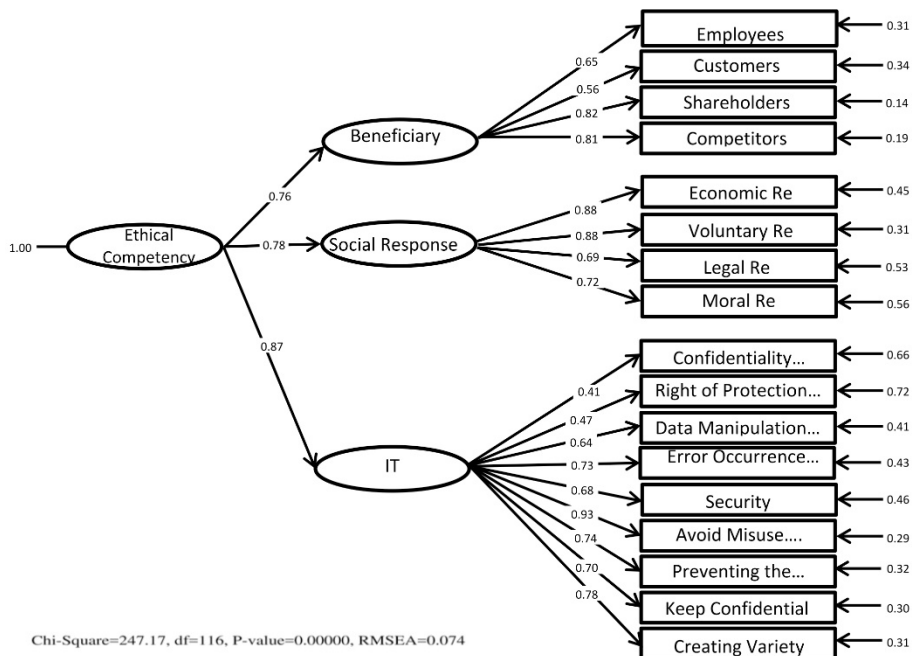


Figure 2. Results of the Structural Model Analysis.

Source: Research Findings

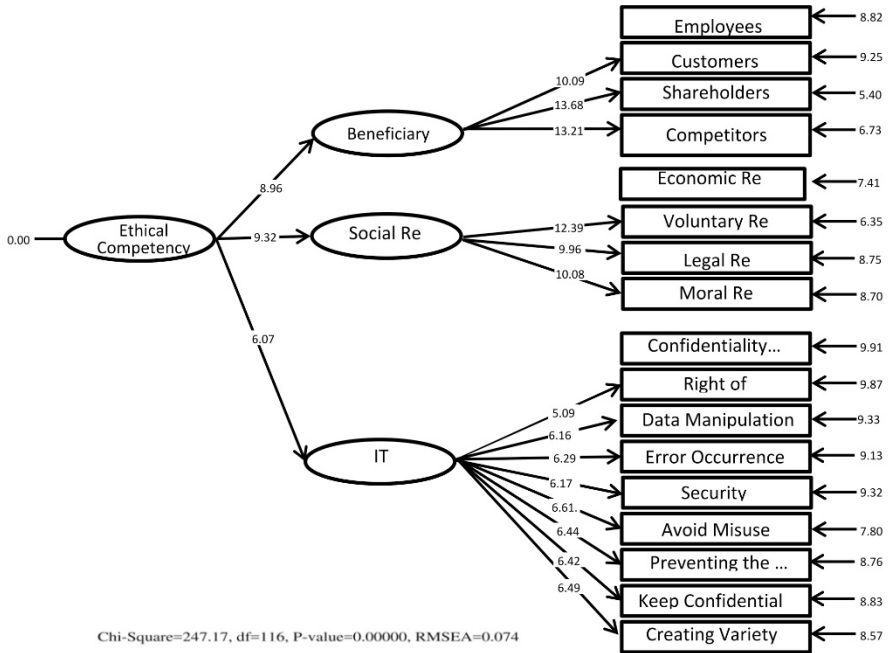


Figure 3. Results of t-values.  
 Source: Research Findings.

We test the structural model of the research after examining the reliability, convergent validity and discriminant validity of the measurement model. The structural model of the research is examined using the standard path coefficients ( $\beta$ ) and t-statistic. The output of the data analysis with PLS software has been presented in Figures 2 and 3.

The impact factors of information technology, social responsibility and beneficiaries' dimensions are 87%, 78% and 76% respectively. It is seen that the highest impact factor belongs to the factor of Information Technology [0.87] and the lowest impact factor is for the factor of Beneficiaries [0.76]. Voluntary responsibility, economical responsibility components by 88% and 87% impact factors, rank first and second and clients by 56% impact factor is in the eighth place. Also, according to experts, among the observed variables, Economic Responsibility, Shareholders, Competitors, Voluntary Responsibility, Moral Responsibility, Error Occurrence in Financial Transactions, Creating Variety in Serving Tools, Avoid misuse of information, Preventing the Disclosure of Confidential and Internal

Information are the most important and reliable variables for ethical competence.

Table 3 presents the multiple correlation and consistency coefficients for the measurement models found in the theoretical model. The multiple correlation coefficients demonstrates how well the observed variables measure the structures, individually and collectively. For measurement models, multiple correlation coefficients are considered to be the reliability of observed variables for the measurement of latent variables. In the structural equation model, multiple correlation coefficients demonstrate the variance ratio of external variables on/above internal variable (Pang, 1996).

Parallel to this, the multiple correlation coefficients between the components of the theoretical model ranged between 0.56 and 0.88. The multiple correlation coefficients obtained for the observed variables are generally higher than the average. This means that none of the observed variables found in the theoretical model is a latent variable. In addition, demonstrating that the observed variables are able to measure the theoretical model, the consistency coefficients of the measurement component are found to be at a reliable level of 0.76, 0.87 and 0.78.

The multiple correlation coefficients for the observed variables are 0.65, 0.56, 0.82, 0.81, 0.87, 0.88, 0.69, 0.72 and 0.88 for the factors of Employees, Customers, Shareholders, Competitors, Security Information, Voluntary Responsibility, Legal Responsibility, Moral Responsibility and Economic Responsibility.

Table 3

*Multiple Correlation and Consistency Coefficients for the Structural Equation Model*

<b>Fit Parameter</b>	<b>Coefficient</b>
<b>Beneficiaries</b>	<b>0.76</b>
Employees	0.65
Customers	0.56
Shareholders	0.82
Competitors	0.81
<b>Information Technology</b>	<b>0.87</b>
Security Information	0.87
<b>Social responsibility</b>	<b>0.78</b>
Voluntary Responsibility	0.88
Legal Responsibility	0.69
Moral Responsibility	0.72
Economic Responsibility	0.88

Source: Research Findings.

Table 4 presents the goodness of fit indices for the simultaneous contribution of each observed and latent variable to the whole model formed for the causal relationships.

In this phase, models that are suitable in terms of statistical fitness are obtained and formed independent conditions which define the relationships of variables with independent variables. First of all, based on the suitable model, the goodness of fit indices are determined. The goodness of fit indices include GFI, AGFI, RMSEA,  $\chi^2$ , df and  $\chi^2/df$  and the coefficient of t. As for the standard fit measurement for values of these indices, the coefficient of GFI and AGFI ranged between 0 and 1. Though there is no full consensus in related literature, a coefficient calculated as over 0.85 (Anderson & Gerbing, 1988; Cole, 1987; Marsh, Balla & McDonald, 1988) or over 0.90 (Kline, 2005; Schumacker & Lomax, 1996) is considered to be a good fit. The values obtained via RMSEA range between 0 and 1. In contrast with GFI and AGFI, a value close to 0 obtained in RMSEA, which gives the error between the observed and produced matrices, is necessary for goodness of fit. Values of 0.05 or lower obtained via RMSEA are sufficient for goodness of fit. As for the ratio of  $\chi^2/df$ , if it is between 2 and 5, there is goodness of fit; and values lower than 2 demonstrate excellent fit (Joreskog & Sörbom, 2001). If the value of t is higher than 2, the goodness of fit index is statistically significant. In addition, the variables that have a statistical relationship with the structures are determined. Thus, the relationships between the constructs and variables in the model are confirmed.

Table 4

*Fit Parameters Regarding the Structural Equation Model*

Index	$\chi^2/df$	GFI	AGFI	RMSEA	CFI	NNFI	IFI
One-time model	1.657	0.92	0.90	0.057	0.97	0.97	0.97
Two-fold Model	2.13	0.88	0.84	0.074	0.95	0.95	0.95
Limit	<3	>0.8	>0.80	<0.1	>0.9	>0.9	>0.9

Source: Research Findings.

## 6 Conclusion

The aim of this study is to provide a model for ethical competence in electronic banking system of Tejarat Bank. This objective is pursued ever since e-banking plays an important role in banking system. Banks employing the latest technologies are more successful in the competitive financial market and are



able to generate more businesses resulting in greater profitability. In recent years, Tejarat Bank as one of the six large banks in Iran has made significant advances in e-banking. This bank aims to increase its market share in e-banking transactions and sustain and excel in the competitive financial market.

In line with this purpose, a theoretical model is formed on the basis of the structural equation model. In this theoretical model, ethical competence is taken as independent variable, and information technology, social responsibility and beneficiaries' dimensions are taken as dependent variables.

The structural equation model analysis reveals that the goodness of fit indices regarding the model formed is at a sufficient level. This result demonstrates that the ethical competence in electronic banking model could be established. These results go beyond previous reports (Aftab, Shahnawaz & Ang (2007), Abreu et al. (2015), Bidabad, & Sherafati (2016), Brits & Lim (2014), Raju (2014)), showing that there is relationships between ethical competence, information technology, social responsibility and beneficiaries' dimensions and support the fact that the model could be formed.

Our results demonstrate that the ethical competence model in electronic banking (see Appendix A) consists of 3 dimensions (beneficiaries, social responsibility and information technology), 9 major components (employees, shareholders, clients, rivals, ethical responsibility, economical responsibility, voluntary responsibility, legal responsibility and information technology) and 56 minor components.

The results and surveys, regardless of time and place and cultural and social differences of distinct societies, indicate that ethical components such as honesty and integrity, mutual trust, mutual benefit and interests, the principle of conflict of interest, the protection of information and secrecy, the confidentiality of information, preventing the disclosure of confidential and intrusive information, respect for social and cultural values, environmental protection, combating money laundering, and etc are critical for e-banking industry and observance of ethical principles will improve banks' public trust, business trust, credit and image in public opinion. Also, based on the results, the main components that should be considered in the electronic banking industry are: employees, customers, shareholders, competitors, economic responsibility, voluntary responsibility, legal responsibility, ethical responsibility and information technology.

One of the goals of Tejarat Bank is the creation of virtual branches and development of virtual banking. Therefore, the implementation of such a plan requires strong information technology, stakeholder's confidence, compliance with domestic and international laws and regulations.

In order to connect and compete with foreign banks, we need to not only strengthen the technology, but also follow international laws and regulations. Considering that the policies of the world's banks are heading towards ethical banking, the revision of existing laws and regulations, as well as the expert and efficient staff, are also fundamental requirements.

The advantages of this model are the correctness of the selected dimensions, attention to the infrastructure, and the applicability and suitability of the implementation strategies. This model is a useful instrument in the hands of policymakers and managers to organize the ethical issues of electronic banking in appropriate ways, Even though it can be used by other private banks as a base model.

Economic and financial advisers, when talking about ethics and banking, put it briefly in one sentence: "Everything in banking is affected by ethics." Therefore, it is recommended that financial institutions and banks along with the development of IT infrastructure and software and hardware departments, comply with ethical values such as honesty, accountability and etc. so that they gain public confidence and fulfill their duties and responsibilities.

It is also suggested that the senior managers of banks focus on the elaboration of codes of ethics, the preparation and/or revision and updating of codes of ethics, the establishment of a regulatory system of ethics, informing customers about the benefits and risks associated with electronic banking products and services, and conduct appropriately in electronic banking and take the necessary measures.

## References

- Abdullah Al-Somali.S, Gholami. R., & Clegg. B. (2009). *Technovation*, 29, 130-141.
- Abreu, R., David. F., Legčević. M., Segura L., Formigoni., H., & Mantovani.F. (2015). Ethics and Fraud in E-Banking Services. *Information Systems and Technologies (CISTI)*, 10th Iberian Conference on.
- Agwu, M. E. (2016). Empirical Analysis of Retail Customers Adoption of Internet Banking Services in Nigeria. *Journal of Internet Banking and Commerce*, 22(1), 1-17.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3), 411-423.
- Aftab. P. K., Shahnawaz, K., & Ivan Ang., R. X. (2007). Factors Influencing Consumer Intentions to Adopt Online Banking in Malaysia. *Business & Economic Review*, 9(2), 101-134.
- Badaracco, J. L. (1995). *Business Ethics: Roles and Responsibilities*; Chicago Irwin.Inc.

- Bashir , H.,& Herati Nik., M .R.(2011). Conceptual Model of Cultural-Ethical Evaluation of Information Technology Solutions. *Ethics in Science and Technology*, 6(1), 25-34.
- Bidabad, B., & Sherafati, M. (2016). Operational Ethical Banking in Rastin Banking (Professional Ethics, Auditing, Inspection, Control, Monitoring and Preservation). *International Journal of Law and Management*, 58(4), 1-21.
- Bontis, N. (2001). Managing Organizational Knowledge by Diagnosing Intellectual Capital: Framing and Advancing the State of the Field. In Bontis, N. (Ed.) *World Congress on Intellectual Capital Readings (pp13-56)*. Butterworth-Heinemann, Boston, MA.
- Brits ,D.W,& Veldsman, T.H.(2014). *SA Journal of Human Resource Management*, 12(1), p. 1 – 14.
- Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research. *Journal of Consulting and Clinical Psychology*, 55,584-594.
- Cronbach, L. (1951). Coefficient Alpha and the Internal Structure of Tests. *Psychometrika*, 16(3), 297–334.
- Dahl, R., Jacob, M., & Mattsson, J. (2015). Ethics in the Bank Internet Encounter: An Explorative Study. *Journal of Information, Communication and Ethics in Society*, 10(1), 36-51.
- DeGeorg, R.T. (1990). *Business Ethics*. New York, NY.
- Eivazlou, H., & Ghilich, W. (2014). *Code of Ethics in the Banking System of the Country*. Bank of the Central Bank of Iran, August.
- Eivazlou, H., & Ghilich, W. (2015). Ethical Banking, Lessons for the Iranian Banking System. *Academic-Promotion Papers on Islamic Economics and Banking*, 10(13), 27-52.
- Eivazlou, H., & Ghilich, W. (2014). Ethical Banking with Islamic Approach: Ethical Criteria and Organizational Measures. Tehran: *Money and Bank Research Institute*.
- Eivazlou, H., & Ghilich, W. (2018). Methods of Establishing Banking in the Iranian Banking System. *Journal of Economics and Islamic Banking*, 20, 77-49.
- Fornell,C., & Larcker. D. (1981), Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics, *Journal of Marketing Research*. 18(3), 382-388.
- Gefen, D. & Straub. D. (2005). A Practical Guide to Factorial Validity Using PLSGraph: Tutorial and Annotated Example. *Communications of the Association for Information Systems*, 16, 91-109.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference*. 11.0 update (4th ed.). Boston: Allyn & Bacon.
- Ghilich, W. (2013). Moral Banking in the World.Tazehaye Eaghtesad .132.66-71.
- Goleman, D. (1998). *Working with emotional intelligence*. New York: Bantam Books.
- Hamelink, C. "The Ethics of Cyberspace," Sage, London, 2000.

- Jasevičienė, F. (2012). *The ethical of banking: Analysis and Estimates*. Retrieved October 12, 2014, from <http://www.vu.lt/leidyba/dokumentai/zurnalai/EKONOMIKA/Ekonomika%2091%203/101-116.pdf>.
- Joreskog, K. G., & Sorbom, D. (1996-2001). *LISREL 8: User's Reference Guide*. Chicago: Scientific Software International.
- Kavathatzopoulos, I., Rigas, G. (1998). A Piagetian Scale for the Measurement of Ethical Competence in Politics. *Education and Psychological Measurement*, 58 (5): 791-803.
- Kline, R.B. (2005). *Principles and Practice of Structural Equation Modeling* (2nd Edition ed.). New York: The Guilford Press.
- Koslowski, P. (2008). Some Principles of Ethical Economy. In: Christopher Cowton, Michaela Haase (eds.). *Trends in Business and Economic Ethics*. Berlin, New York Tokyo.
- Koslowski, P. (2011). *The Ethics of Banking: Conclusions from the Financial Crisis* (Translator. Deborah Shannon), Springer Dordrecht Heidelberg London New York; edition (April 20, 2011): p. 13-15, 19-23.
- Kulju, K., Stolt, M., Suhonen, R., & Leino-Kilpi, H. (2016). Ethical Competence: A Concept Analysis. *Nursing Ethics*, 23(4), 401-412.
- Larkin, G. L. (1999). Mapping, Modeling, and Mentoring: Charting a Course for Professionalism in Graduate Medical Education. *Cambridge Quarterly of Healthcare Ethics*, 12(2), 167-77.
- Lewis, C. (1999). *The Ethics Challenge in Public Service. A Problem Solving Guide*.
- Mackenzie, C., Lewis, A. (1999). Morals and Markets: The Case of Ethical Investing. *Business Ethics Quarterly*, 9(3): 439-452.
- Marsh, H. W., Balla, J. R., & McDonald, R. P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size. *Psychological Bulletin*, 103(3), 391-410.
- Mundhe, E. S. (2016). A Critical Study of E-Banking: Their Risks and Mechanisms of Risk Management. *International Journal of Innovative Research in Science, Engineering and Technology*, 5(11), 18869-18875.
- Omariba, Z., Masese, N., & Wanyembi, G. (2012). Security and Privacy of Electronic Banking. *International Journal of Computer Science Issues*, 9(4), 432-446.
- Paganini, M.C., Egry, E.Y., 2011. The ethical component of professional competence in Nursing :an analysis. *Nursing Ethics* 18 (4), 571–582.
- Pang, N. S. K. (1996). School Values and Teachers' Feelings: A LISREL Model. *Journal of Educational Administration*, 34(2), 64-83.
- Paulavičiūtė, A. (2004). *Verslo etikos būklė Lietuvoje*. Vilnius, *Ciklonas* 97, ISBN 9955-497-50-5.
- Paulet, E. (2011). Banking Ethics. Corporate Governance: *The International Journal of Business in Society*, 11(3), 293-300.
- Pruskus, V. (2002). *Verslo etika: laiko iššūkiai ir atsako galimybės*. Vilnius.

- QIMR Berghofer Human Research Ethics Committee. Available from: <https://www.qimrberghofer.edu.au/about-us/ethics-committees/qimr-berghofer-human-research-ethics-committee/> Accessed September 26,2016.
- Rahman, M., Saha, N. K., & Sarker, M. N. I. (2017). Problems and Prospects of Electronic Banking in Bangladesh: A Case Study on Dutch Bangla Bank Limited. *American journal of Operations Management and Information Systems*, 2(1), 1-20.
- Raju, G. D. (2014). An Ethical Issues in E-Banking– It's Role & Impact. *International Journal of Emerging Technology in Computer Science & Electronics*, 11(5), 45-55.
- Ramezani, R., Bahry Sales, J., & Pakmaram, A. (2010). Clarification importance of accounting education students in computer science, related offenses, and observe professional ethics. *Management Accounting*, 3(1), 121-140.
- Talebi, M., & Kiaei, H. (2013). Ethical Banking: Examining Common Points and Its Differentiation with Islamic Banking, 23rd Islamic Banking Conference, 142 - 155.
- Turban, E., Lee, J., King, D., & Chung, H. M. (2000). *Electronic Commerce: A Managerial Perspective*, Prentice Hall International Inc.
- Schumacker, R. E., & Lomax, R. G. (1996). *A Beginner's Guide to Structural Equation Modeling*. Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.
- Shabani, W. (2016). An Analysis of the Ethical Banking Requirements in Islamic Economics, the Basis of Resistance Growth. Annual Conference on Ethics and Economics, Imam Khomeini Educational Institute, Qom.
- Sohrabi, B., & Khanlari, A. (2009). Ethics, Information Technology and Organizational Behavior. *Ethics in Science and Technology*, 4(2), 4-10.
- Vasiljevičienė, N. (2003). *Verslo Etika Ir Elgesio Kodeksai: Filosofinės Ištakos, Metodologiniai Pagrin-Dai Ir Šiuolaikinės Praktikos Bruožai*. 2-Asis Leid. Vilnius. ISBN 9955-497-37-8.
- Vyšniauskienė, D. Kundrotas, V. (2002). *Verslo etika. Technologija, Kaunas*.
- Wertz Norman, D H., Allinger, L. (1974). Conformational Analysis - CI: The Gauche-Hydrogen Interaction as the Basis of Conformational Analysis, *Tetrahedron*, 30(12), 1579-1586.

## Appendix

The conceptual model of the research is given in table 5. It is derived from Eivazlou and Ghilich (2014), Alliance Bank Malaysia, European Commission (WHO), Hoglund AT, Eriksson & Helgesson (2007), Kulju (2016), HSBC bank, Talebi & Kiaie,( 2013), Raju (2014), Agwu (2016).

Table 5

### *The Conceptual Model of the Research*

Ethical Competence		
Beneficiaries	Employees	Honesty and Thoroughness, Maintaining a Respectful Workplace, responsibly, Specialized and Efficient, Customer Orientation, Bailment.
	Customers	Fairness and Impartiality, Just and Equitable in Banking Contracts, Keep confidential information safe and secure, Serving customers, Freedom of Choice, Loyalty and commitment.
	Shareholders	Principle of Mutual Benefit and Interest- Honesty and Integrity- transparency-Avoid conflicts of interest-Mutual Trust- Respect for privacy.
	Competitors	Fair competition with competitors-Observing the Rights of All institutions of the banking system-Communication and mutual trust with other banks-upholding the highest levels of integrity.
Information technology		Security Protection, Avoid misuse of information, Right of protection and non-intervention, Data Manipulation and Financial Cheating, Error Occurrence in Financial Transactions, Preventing the disclosure of Confidential and internal information, Keep confidential information safe and secure, Creating Variety in Serving Tools, Confidentiality and Secret-Keeping
social responsibility	Economic Responsibility	Anti-Money Laundering, Anti-bribery and anti-corruption, Reduce costs, Financing medium and micro enterprises, Entrepreneurship, commitment to control and management financial crime risk, Transparency In Financial Reporting.
	Voluntary Responsibility	Social Investment, Protect the environment, Reducing the use of a variety of Natural and Human Resources, Education, Promoting Community Health, Social protection, Respect Human Right, Reducing environmental pollution.
	Legal Responsibility	Comply with rules and regulations of government, the central bank and other appropriate regulatory agencies, the rule of law, Respect people's rights and the rights of public organizations and institutions, Competition and antitrust laws.
	Moral Responsibility	Respect for cultural and social values, Respect the Rights of Other, Fulfillment of obligations, covenants and contracts, De Monopolization of one's own position, appropriate accountability to clients and other citizenship.

Source: Research Findings.