

Factors affecting social banking with emphasis on technological entrepreneurship

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ABSTRACT

The purpose of this study was to determine the factors affecting social banking with emphasis on technological entrepreneurship in the Agricultural Bank, which is applied in terms of purpose and in terms of descriptive-survey implementation method and correlational type, which has been done by mixed exploratory method. In the qualitative stage of the research team, there are 20 university professors and senior managers of Keshavarzi Bank who have been selected by purposeful method and snowball technique. Also in the quantitative stage, the statistical population consists of experts of the Agricultural Bank of the northern provinces, whose number is 600 people. To determine the sample size based on Crecy and Morgan table, 234 people were selected by simple random sampling. Fuzzy Delphi method has been used to identify the dimensions and components of social banking with emphasis on technological entrepreneurship. Data collection tools are: interviews, documents and questionnaires that the results showed six main dimensions: inter-organizational interactions - structural factors - external factors - skill factors - staff support and managerial factors and 26 components as the most important component. Social banking companies with an emphasis on technological entrepreneurship have also been identified. Also, exploratory factor analysis method has been used to fit the model and hierarchical analysis method has been used for ranking, with structural factors index with a score of 0.382 and managerial factors with a score of / 250, respectively. 0, staff support with a score of 0.160, skill factors with a score of 0.101, inter-organizational interactions with a score of 0.064 and external factors index with a score of 0.043 have priority.

Keywords: Social Banking, Technological Entrepreneurship, Fuzzy Delphi, Hierarchical Analysis, Factor Analysis

Introduction

Attention to development and progress has always been emphasized by societies as a constant challenge. With the development of societies, this has led to more attention of researchers and policy makers to creativity and innovation as a new solution for development. Therefore, terms such as "knowledge-based economy and innovative economy" came into focus. In this direction, many researchers considered innovation as one of the main factors in the development of countries, which led to the introduction of various indicators for measuring innovation at the national level. Technological entrepreneurship is one of the latest topics in the field of entrepreneurship and modern economics. Technological entrepreneurship is

the process of identifying technological opportunities and innovative application of scientific and technical knowledge in exploiting them in order to create innovative values in technology (Hejazi and Pak Rad, 2011).

Banks are one of the industries in today's technology world that are fundamentally dependent on information and communication technology for all their operations and transactions. Every transaction in large banks requires a huge information and communication infrastructure. Banks have always increased the satisfaction of their customers by using the latest developments in the field of information technology. Technology and technology in the world is rapidly evolving and developing, and social banking is the undisputed model of future banking. The knowledge of social banking is a relatively new topic, the idea of which was originally developed in developing countries such as India, and its basis is no traditional banking system, and in a dramatic change, instead of product-centric, it has literally approached the concept of customer-centric (Sufi, 2016).

Banks by providing new banking services that have provided at a high level over the past years. Social banking includes a package of services that can be defined from traditional banking services, but this time in the social field, as well as value-added services that banks used to offer to depositors in a limited way, but due to facilities provided by online tools Banks can also provide value-added services to their customers at any level. Social banks are actually conscientious banks. These banks have invested in social activities, providing opportunities for the disadvantaged, social protection, environmental protection, and ethics. Social banks try to invest in activities that improve the conditions of the whole society and do not seek to benefit the few in society. The main difference between ordinary banks and social banks is that when ordinary banks seek to maximize their profits, social banks operate in three dimensions: profit, people and the environment (Benedict, 2011). Therefore, the main question of the research is: What are the factors affecting social banking with emphasis on technological entrepreneurship in agricultural banks?

Social Banking

Social banking means economic awakening. According to the definition of social banking, social banking is the provision of financial services and banking in a way that leads to the pursuit of their grand goals; Positive collaboration between all potential individuals for current and future development (Frances, 2017).

In social banking, the focus is on meeting the needs of the real economic and social conditions, while at the same time considering the social, cultural, geographical and economic conditions. In fact, social banking has emerged in the last century and is still the main force in the age of globalization. Because most social banks are in the Atlantic, their role can be instructive in the global development of social financial services (Galli et al., 2016).

Technological entrepreneurship

There are many equivalent terms for technological entrepreneurship in scientific articles. These words include technological entrepreneurship, technology entrepreneurship, technology-based entrepreneurship, technical entrepreneurship, as well as the combined word "technology-entrepreneurship" and the word "technology-creation: techno-technology" (Sandra et al., 2017).

By studying the researches in the field of technological entrepreneurship, it can be said that these studies have been formed by creating a link between studies in the field of entrepreneurship and technological innovations. According to Schumpeter), the process of opportunity recognition or the market equilibrium process (according to Krezner), or the decision-making process in an uncertain environment (according to Knight), or the process of value creation (according to Timmons or Stevenson), or the process of discovery / Creating, evaluating, and exploiting opportunity (according to Shin and Wankataraman). Now, based on each of the above views on entrepreneurship, a different definition of technological entrepreneurship is presented. In 1993, Zahra considered technological entrepreneurship as one of the innovations of manufacturing companies. In 2003, Shin and Wankataraman considered technological entrepreneurship as processes in which entrepreneurs use organizational resources, technical systems, and strategies to seize opportunities in entrepreneurial companies (Glycria, 2018).

- Meygonpour and Bakhtiari (2016) have conducted a study entitled "Presenting a theoretical model of factors affecting the process of technological technological entrepreneurship in companies active in the

field of green biotechnology", and the results showed that according to the new conceptual model, factors affecting the process of technological entrepreneurship, Includes 5 main factors and 36 pivotal factors.

- Pour Moradi (2015) has conducted a study entitled Designing a Technological Entrepreneurship Model in Sports Boards of Kerman Province. The present study has been compiled with the aim of designing a technological entrepreneurship model in sports boards of Kerman Province. The results of exploratory factor analysis of the research tool showed that 6 factors in the questionnaire under study, inter-organizational interaction factors, structural factors, external factors, skill factors, staff support and management factors were extracted and identified as technological indicators of entrepreneurship.

Ramazanpour Nargesi et al. (2015) have conducted a study entitled Key Factors Affecting the Development of Technological Entrepreneurship in Knowledge-Based Companies Based in Science and Technology Parks in Iran, and the results show elements such as government, university, capital, and infrastructure. , Market / customers, consultants and technology entrepreneur are the most important factors influencing the development of technological entrepreneurship.

-Ghorban (2015) has conducted a study entitled Ranking Factors Affecting Technological Organizational Entrepreneurship of Companies in the Science and Technology Park Using the Fuzzy Dimtel Method, and according to the results, it can be said that \wedge the index mentioned in Research directly and indirectly affects technological organizational entrepreneurship. The results showed that the government has the most direct impact and technology entrepreneurs have the most indirect effect on technological organizational entrepreneurship.

Mabel (2017) has conducted a research entitled "Introduction of Technological Entrepreneurship Model in Knowledge-Based Companies Based in Science and Technology Parks: A Qualitative Approach in Germany". The research method in this study is a qualitative method based on exploratory interviews and group interviews. The results showed that the speed of change in science and technology is so high that uncertainty is the most prominent feature of our environment. The main basis of such changes is technology, and the creators of technology are entrepreneurs. In Germany, according to most experts, technological entrepreneurship is the key to technology and economic development.

- Dastranji et al. (2017) have conducted a study entitled Technology Roadmap for Social Banking, and based on the results of technology solutions, special attention is paid to the challenges and the level of capabilities (technical and social) for the development of technologies and special services for It has developing countries. Determines the level of capabilities and absorption capacity of the path for technology development. Therefore, banks should design their business plan and roadmap based on their context and capabilities, market situation, situation and goals. Policymakers need to increase cooperation, financial transparency, information and security through appropriate legislation.

Bella et al. (2016) conducted a study entitled Designing a Conceptual Model of Technological Entrepreneurship: A Case Study of a Passenger Transport Technology Organization in Australia. Such as "understanding the weakness of technology" and its lack of support, as well as "knowledge of new technologies" and "tendency to excellence" is formed and in two general steps "technology selection

Table 1 . Convert verbal variables to triangular fuzzy numbers

Triangular fuzzy number	Verbal variables
(0/9, 1, 1)	I quite agree
(0/7, 0/9, 1)	I agree
($\cdot/3 \cdot 0/5 \cdot 0/7$)	Without my opinion
(0, 0/1, 0/3)	I disagree
(0, 0, 0/1)	I completely disagree

What are the factors affecting social banking with an emphasis on technological entrepreneurship?

To answer this question, the fuzzy Delphi technique has been used, the results of which are as follows:

Fuzzy average table of expert opinions in the first stage of the survey and the amount of de-fuzzy

Fuzzy average table of expert opinions in the second stage of the survey and the amount of fuzzy decomposed

Fuzzy average table of expert opinions in the third stage of the survey and the amount of de-fuzzy

Table 2 . The difference between the de-fuzzy means of the second and third stages

Kamo and Bartlett test results		
.753	Measuring the adequacy of Kaiser-Mir-Olkin sampling	
3961.112	Casual approximation (square chi)	Bartlett spherical test
325	Degrees of freedom	
.000	Significance level	

Considering the KMO number (greater than 0.7) and the significance number of Bartlett test (sig <0.05), it can be said that the data are suitable for performing factor analysis and have the required conditions.

This table has two columns, Initial and Extraction, which show the commonality of a variable (item) equal to the square of multiple correlation (R^2) with the factors. The first column of the initial subscriptions states the subscriptions before extracting the agent (s), and all the initial subscriptions are equal to one, and the larger the extracted subscription values (ie greater than 0.5) the agent They better describe (show) the desired. Therefore, the table above shows the appropriateness of all questions in the factor analysis process because the number of subscriptions to the questions is more than 0.5.

These questions consist of 6 factors and these factors explain and cover about 70.647% of the variance, which in fact indicates the appropriate validity of the questions. Then the rotating matrix of factors. This matrix identifies the correlation between the item (questions or variables) and the factor, which will be clarified based on the degree of correlation. In this matrix, the factor loads (factor scores) of each variable are greater than 0.5 and are placed under the umbrella of the desired factor. The higher the value of this coefficient, the greater the role of the relevant factor in the total variance of the desired variable. Has it. The table below shows what questions and with what factor loads are related to these factors.

The rotation of factors means the transformation of the factor structure into a simple structure of the factor load, which is done in order to make the interpretation of this structure easier. In other words, the rotation of factors is done in order to improve their significance, reliability and reproducibility. Of course, we must note that rotation never improves the basic aspects of analysis. For example, rotation cannot increase the amount of variance extracted from each variable, but its value is approximately the same before and after rotation. Rotating factors changes factor loads and so on. In other words, the rotating agents regenerate the initial correlations more accurately than the non-rotating solution. Rotating factors well explain the initial solution, the common variance (correlations).

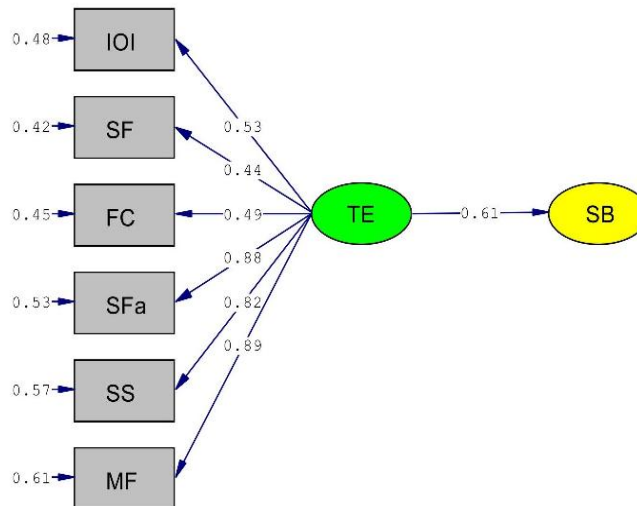


Fig. 1. Results of confirmatory factor analysis based on standardized coefficients

The above diagram shows the coefficients of factor loads in the standard state, which are in the range (-1.1) and show the relationship between the variables. The criterion for the suitability of factor load coefficients is 0.3. In the above diagram, all the numbers of factor load coefficients of the questions are more than 0.3, which indicates the appropriateness of this criterion.

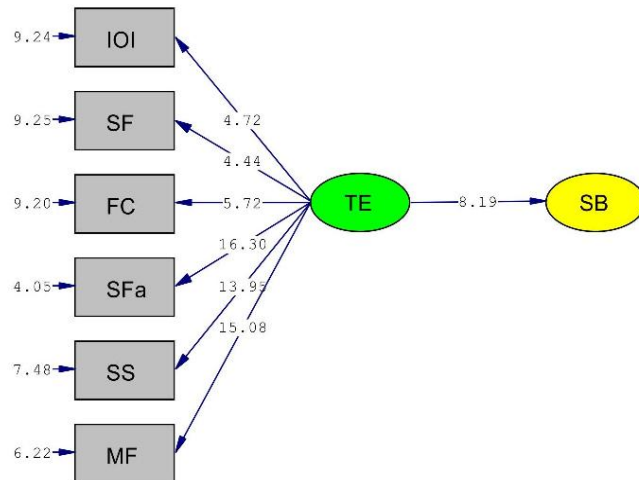


Fig. 2. Results of confirmatory factor analysis based on significance coefficients

As can be seen in the diagram, the values (T-value) are greater than 1.96 and indicate that all path coefficients in the above diagram are significant at the error level of 0.05.

Table 3 . Results from the goodness of fit model fit

IFI	NNFI	NFI	AGFI	GFI	RMSEA	SRMR	CMIN/DF	Fitness index
>0.9	>0.9	>0.9	>0.9	>0.9	<0.08	<0.05	<3	Acceptable values
0/92	0/95	0/94	0/93	0/91	0/077	0/0000	2/71	Calculated values

The two most important model fit indices (RMSEA) and (CMIN / DFx ^ 2/df) are in Table 3. The value (CMIN / DFx ^ 2/df) is 2.71. The smaller the value (CMIN / DFx ^ 2/df), the better the model fits. RMSEA index is the average square of model errors, which is estimated to be 0.077. This index is made based on model errors. The allowable limit of this value is 0.08, ie values below 0.08 are acceptable and also below 0.05 is very good. Other indicators are in the acceptable range, so it can be said that the model has a good fit.

According to the results of Expert Choice software, as shown in Figure (3) and Table (4), in the indicators of technological entrepreneurship, the structural factors index with a score of 0.382, management factors with a score of 0.250, respectively. Staff support with a score of 0.160, skill factors with a score of 0.101, inter-organizational interactions with a score of 0.064 and external factors index with a score of 0.043 have priority.

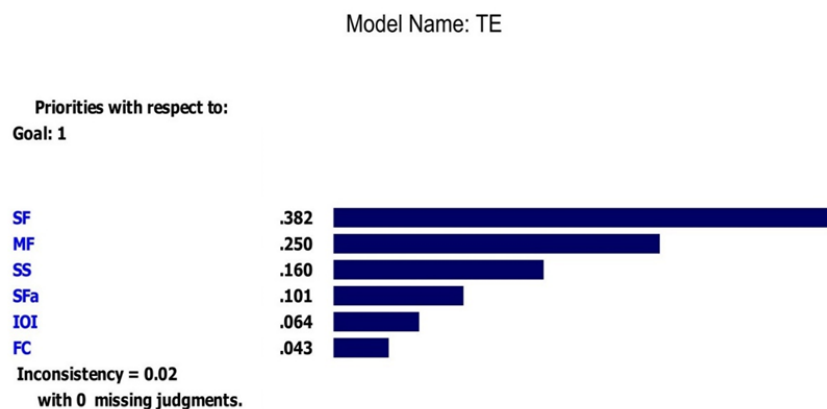


Fig. 3. Indicators of technological entrepreneurship

Table 4 . Score and rating table of factors affecting social banking with emphasis on technological entrepreneurship

Rating	points	Indicator
1	0/382	Structural factors
2	0/250	Management factors
3	0/160	Staff Support
4	0/101	Skill factors
5	0/064	Inter-organizational interactions
6	0/043	External factors

Discussion

Social banks focus on social activities, providing opportunities for the disadvantaged, social support, environmental protection, and ethics. These banks try to invest in activities that improve the conditions of the whole society and do not seek to create benefits for a small number of people in the society. This means that the decision of social banks is made by examining the social and economic stability of society. Stable investments and lending methods are some of the things that these banks use to create a better quality of life for most people in the community. The main difference between ordinary banks and social banks is that when ordinary banks seek the maximum Are their own profit, social banks operate in three dimensions of profit, people and environment. While social banks are concerned with making a profit, they are also concerned with improving social conditions and the environment. In other words, when lending funds or any other purpose they have, social banks consider three dimensions: interest, people and the environment. Due to their social responsibility, social banks in Europe offer lower interest rates than regular banks and provide funds to individuals and projects that improve the conditions of society. Social banking is a new chapter in banking that guides all bankers in making decisions that link economic and social goals. Social banking represents those banking activities, products and services that contribute to the social and human development of today and tomorrow. In social banking, while meeting the real needs of today, attention is also paid to the social, cultural and ecological sustainability of the society. According to the results of research conducted by Meygonpour and Bakhtiari (2015), Pour Moradi (2015), Ramazanpour Nargesi et al. (2015), Ghorban (2015), Mabel (2017), Dastranji et al. (2017) and Bella et al. (2016) cited.

Suggestions

Based on the research findings, the following suggestions are presented:

- Clear understanding of the needs and concerns of customers using the analysis of customer data in the context of social media in the Agricultural Bank
- Encouraging the presentation of innovative and entrepreneurial technological solutions, attention to continuous development and providing the best responsible business method in Keshavarzi Bank
- Putting technological performance standards related to social responsibility in the Agricultural Bank
- Requiring the bank to be transparent and disclose banking information to stakeholders in the Agricultural Bank
- Granting low-interest, medium-term and long-term facilities to entrepreneurs and applicants for home and self-employment jobs and entrepreneurs
- Existence of equal values, transparent rules and regulations and relying on approved and approved criteria in all organizational categories in Keshavarzi Bank
- Participation and cooperation of Keshavarzi Bank in projects to reduce environmental pollutants, such as providing facilities to replace worn-out vehicles and encouraging people to replace scrapped vehicles
- Reducing bureaucracy and removing barriers to granting facilities in the Agricultural Bank
- Development of credit packages and facilities commensurate with the level of income and ability of start-ups and newly established enterprises
- Increasing the speed and improving new banking services in order to deposit funds by donors, more cooperation with charities
- Selecting and attracting capable and enthusiastic employees, in interaction with the customers of Keshavarzi Bank and ensuring the satisfaction of the community members

- Payment of employment facilities to clients introduced by the Welfare Organization and the Relief Committee in order to implement the country's budget law
- Creating a deposit plan to support cancer patients and special patients in the Agricultural Bank
- Attracting participation and ethical behavior with banking stakeholders
- Expanding the level of electronic banking in agricultural banks
- Fight against money laundering and corruption in the Agricultural Bank
- Planning all activities for social, cultural and environmental success in the Agricultural Bank
- Involvement of customers and other stakeholders in the decision-making process, especially regarding the use of deposit funds.

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