

# Explanation and Prioritization of Inhibiting Factors Related to Management Information System in Keshavarzi Bank of Fars Province

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## ABSTRACT

The present study aims to determine and prioritize the inhibiting factors of management information system in Keshavarzi bank of Fars province. This study is applied, descriptive-survey design. Library and field methods (questionnaire) are used for data collection. At first, based on the relevant theoretical and empirical literature, 40 barriers are identified in the form of three factors (managing factors including 14 barriers, structural factors including 12 barriers, environmental factors including 14 barriers) and then by a five-item Likert scale, the views of people are asked regarding the inhibition and their importance in management information system. The study population includes 550 “managers, experts and authorities of management and branches of Keshavarzi bank of Fars province”. According to Morgan Table, 226 people are selected as sample. The sampling method is systematic random. The validity of questionnaire is verified by content and face validity, the opinions of experts and the study of books, articles and questionnaires and the reliability of questionnaire for managing, structural and environmental factors is computed by Cronbach’s alpha coefficient as 0.839, 0.810 and 0.852, respectively. This study is composed of a main hypothesis and 4 sub-hypotheses. For data analysis, existing methods in descriptive and inferential statistics, t-test and Friedman test are applied. The results of study show that inhibiting factors of management information system in Keshavarzi bank of Fars province are including environmental, managing and structural factors, as on priority.

**KEYWORDS:** Information technology, Management information system, Environmental factors, Managing factors, Structural factors

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## INTRODUCTION

Present era of human being life is information and communication era. In information era and in information community, some concepts including data and information are common concepts and without them everything is hard and impossible.

Today, economic health of nations has direct relation with their skills level in ICT and it is necessary to provide suitable research and scientific grounds for IT development. (Badraghe, Ali. 2010)

Development of IT infrastructures is occurred gradually. Thus, we can say the importance and role of IT and their effects on correct management decisions have been revealed for all organizations. By investigation of this issue in Keshavarzi bank as a specialized bank in agriculture and using the results of the study, besides prioritization of the challenges of establishing management information system, by required preventive measurements and providing required grounds, besides facilitation of implementation process, its success can be increased considerably. (Beheshtian, Mehdi, Abolhassani, Hossein. 2005).

At first, the concepts, definitions and study variables are investigated. Then, the previous domestic and foreign studies are presented and finally the research hypotheses and proposed model of study are explained. (Sagheb Tehrani, Mehdi, Tadayon, Shabnam. 2005)

### Applied explanations

#### Information management

Information management is the ability of an organization to keep, maintain, recover and distribute correct and timely information among the people with the minimum cost and suitable way for decision making. (Javadkar, W.S. 2003)

Thus, we can say information management principle by using new information technology can face semantic expansion and is associated to all affairs of absorption, creation, maintaining, development and recovery and distribution of information and its role in creating competitive advantage in organization. Knowledge management as a new scientific field creates required mechanisms for knowledge systematic management in organizations. (KHEDMATI ALIREZA (1371) (Sarlak, Mohammad Ali, Forati, Hassan, 2008)

#### Management Information System

Management information system is a systematic system to provide information to support planning and controlling the organization performance. This system provides the data from internal and external sources and presents to the managers and decision makers. (Sarafizade, Asghar; Ali Panahi, Ali. 2005)

Also, it is associated with people, methods, equipment, models and data (Sarafizade, Asghar. 2004). In other words, management information system by presenting specific managerial reports and by regular and repetitive basis can facilitate management task. We can say, management information system collects the information of past and present and can predict the future (Qazizadefard, Seyed Ziaoldin. 2009).

Indeed, management information system creates information in organization and then helps the organization in identification and determination of problem (FARHANGI ALIAKBAR, Hussein ZADEH Hussein & SALEHI ALI (1389)). Applications of ICT are shown as according to Sarafizade view:

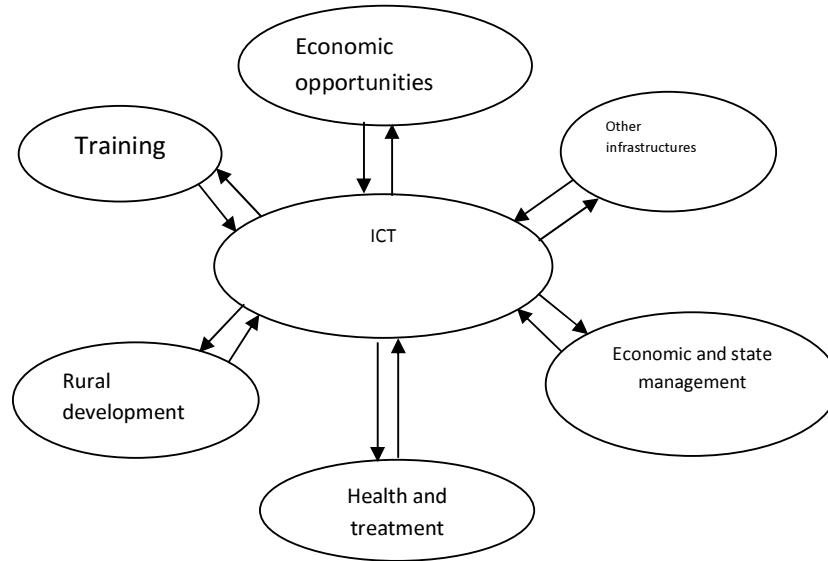


Fig. 1. The applications of ICT

By accepting the great power of ICT in improving the economic, social and cultural status of people, it is the center of all development strategies (Kazemi,mostafa, fayazi,marjan & mirzadeh, malihe (1387)).

### Study hypotheses

#### Main hypothesis

There are inhibiting factors in establishment and application of management information system in Keshavarzi bank of Fars province.

#### Sub-hypotheses

Managing factors are one of the inhibiting factors of management information system in Keshavarzi bank of Fars province.

Structural factors are one of the inhibiting factors of management information system in Keshavarzi bank of Fars province.

Environmental factors are one of the inhibiting factors of management information system in Keshavarzi bank of Fars province.

There is priority capability between inhibiting factors of management information system in Keshavarzi bank of Fars province.

#### Data collection procedures and research method

The required data are collected by two methods:

Library (documents evaluation)

Field (In this method, the measure is questionnaire)

The study population includes managers, experts and authorities of management and branches of Keshavarzi bank of Fars province as 550 people. Random systematic sampling is used in this study (Kia, Ali Asghar. 2007).

The study sample is extracted by Morgan Table as 226. Based on the lack of responding of some subjects and incompleteness of some of questionnaires, 235 questionnaires are distributed and 226 questionnaires are collected and investigated. To select sample, systematic random method is used (Naderi, Ezatollah; Seif Naraghi, Maryam. 2012).

At first, the people names are sorted by alphabetical order, and based on the study population ratio to sample size, of 3 people, 1 person is selected randomly. Among first three people, 1 is selected randomly and other people are selected and questioned as 3 people to the previous person (Agarwal, R. and Prasad, J. (1999)).

Table 1. Selected inhibiting factors of management information system via questionnaire

Item	Inhibiting factor
1-Managers fear of endangering job position by clarification of information after using MIS	<b>Managing</b>
2-The lack of complete support of top management of organization of MIS implementation	
3-The lack of familiarity of managers with applications and benefits of MIS	
4-The lack of long-term view in organization managers due to high movement and short management periods	
5-Managers inability to give clear vision of organization as by implementation of MIS and encouraging the employees	
6-The lack of necessity and obligation to implement MIS from organization managers	
7-The lack of required knowledge and experience in managers regarding computer	
8-Concern of managers of reducing security of organization information by implementing MIS	
9- Concern of managers of hardship of work processes by establishing MIS	
10-Lack of awareness of managers of traditional method problems and as there are better methods for affairs	
11-Low experience of managers to use MIS	
12-Resistance of managers to change	
13-The low authority of state organizations managers in implementation of MIS	
14-Lack of motivation in managers	
15-The lack of global uniform network among the organizations namely various banks	
16- The lack of an independent unit (in terms of human resources and equipment) as responsible for design and establishing MIS in organization	
17-The lack of suitable infrastructures in organization (hardware, software, network, etc.)	
18-Inability of organization in technical support of hardware and software from eliminating defect and updating	
19-Low quality of hardware and software equipment	
20-Shortage of skillful human resources in relevant issues of MIS	
21-Shortage of human resources with two specializations of management and computer	
22-Inconsistency of organization structure with management information system needs	
23-Non-flexible structure of organization	
24- Resistance of employees to change due to structural weakness of organization	<b>Environmental</b>
25-Lack of stability in executive team MIS	
26-Inconsistency between various units of organization to use IT	
27-The lack of suitable culture regarding using computer and MIS in country	
28-The emphasis of government on personal experience instead of organized information during decision making	
29- The lack of scientific and organized planning view	
30-Lack of good norms of government via holding the specialized scientific conferences of MIS	
31-Low quality of educational and justification systems regarding MIS in country	
32-The lack of adequate consideration of government regarding establishing MIS and lack of obligation of organizations to apply it	
33-Shortage of qualified providers in relevant fields of design and implementation of MIS in country	
34-The lack of suitable evaluation to evaluate the organizations performance.	
35- The lack of considering the ability of using MIS in managers selection stage	
36-The lack of suitable evaluation and supervision systems for offices to create competition space among the organizations	
37-The lack of competition space for organizations and managers as using MIS is necessary as competitive advantage.	
38- High implementation costs of MIS in organization	
39- The shortage of organization credits to implement MIS	
40-Indefinite condition of investment return in MIS	

Likert scale is used in the study to rank the inhibiting factors of management information system.

General form and scoring of this scale for main questions of study are as follows:

Table 2. General form and scoring of Likert scale

Very low	Low	Average	Much	Very much
1	2	3	4	5

**Data analysis**

**Descriptive analysis**

Standard deviation	Median	Average	Maximum	Minimum	Features
7.27	39	97.39	58	24	AGE
6.81	16	15.92	3	1	Work experience

Percent Frequency	Frequency	Type	Features
84.5	191	Male	Gender
15.5	35	Female	

### Inferential Analysis

The evaluation of indices of study variables by t-test

To identify and classify the inhibiting factors of management information system in Keshavarzi bank of Fars province, by previous studies and opinions of experts (experts and specialists), 40 MIS inhibiting factors are identified, then by a five-item Likert scale questionnaire, the participants are asked to state how much the factor from their view inhibits MIS application in the bank. Then, these factors are classified in three main factors as follows:

Managing factors (14 items), structural factors (12 items) and environmental factors (14 items). (Arison, D. and Fitzgerald, G. (2003)).

Each of the above factors is evaluated by t-test and they are prioritized by Friedman test.

The investigation of managing factors indices

In this study, to evaluate the “inhibitory managing factors of management information system in Keshavarzi bank of Fars province”, a five-item Likert scale is used (very low=1, Low=2, average =3, much=4 and very much=5) including 14 items. (Bhatangar, Sc. (ED.) (1991))

First hypothesis test

$$\left\{ \begin{array}{l} H_0: \mu = 3 \\ H_1: \mu \neq 3 \end{array} \right.$$

Now, by t-test we can evaluate all the items of managing factors (14 items).

The results of managing factors indices test indicates that significance level of 13 items is less than 0.05 and one item (resistance of managers to change) is higher than 0.05. Generally, we can say for management factors,  $H_0$ , the equality of mean with 3 at level 5% is rejected. (Bonifaci, M., Bouquet, P. and Traverso, P. (2002))

In other words, by confidence interval 95%, we can say from respondents' view, the inhibitory managing factors level of management information system in Keshavarzi bank of Fars province is above average. (Daft, R.L. (2006))

Thus, we can say managing factors are one of the inhibiting factors of management information system in Keshavarzi bank of Fars province. (Dessler, G. (2001))

#### The investigation of structural factors indices

In this study, to evaluate the “inhibitory structural factors of management information system in Keshavarzi bank of Fars province”, a five-item Likert scale is used (very low=1, Low=2, average =3, much=4 and very much=5) including 12 items. (Ditsa, G.E. (2003)).

Second hypothesis test

$$\left\{ \begin{array}{l} H_0: \mu = 3 \\ H_1: \mu \neq 3 \end{array} \right.$$

Now, by t-test we can evaluate all the items of structural factors (12 items) (Edwards, S. (2002)).

The results of structural factors indices test indicates that significance level of 11 items is less than 0.05 and one item (low quality of hardware and software equipment) is higher than 0.05. Generally, we can say for structural factors,  $H_0$ , the equality of mean with 3 at level 5% is rejected. In other words, by confidence interval 95%, we can say from respondents' view, the structural inhibiting factors level of management information system in Keshavarzi bank of Fars province is above average (Gordon, R.S. and Gordon R.J. (2004)).

Thus, we can say structural factors are one of the inhibiting factors of management information system in Keshavarzi Bank of Fars province. (Haag, S., Cummings, M., Mccubbrey, B. (2004))

#### The investigation of environmental factors indices

In this study, to evaluate the “inhibitory environmental factors of management information system in Keshavarzi bank of Fars province”, a five-item Likert scale is used (very low=1, Low=2, average =3, much=4 and very much=5) including 12 items. (Igarria, M. and Iivari, J. (1997))

Study question: Are environmental factors as one of the inhibiting factors of management information system in Keshavarzi bank of Fars province?

Third hypothesis test

$$\left\{ \begin{array}{l} H_0: \mu = 3 \\ H_1: \mu \neq 3 \end{array} \right.$$

Now, by t-test we can evaluate all the items of environmental factors (14 items).

The results of environmental factors indices test indicates that significance level of all items is less than 0.05 Generally, we can say for environmental factors,  $H_0$ , the equality of mean with 3 at level 5% is rejected. In other words, by

confidence interval 95%, we can say from respondents' view, the inhibitory environmental factors level of management information system in Keshavarzi bank of Fars province is above average. Thus, we can say environmental factors are one of the inhibiting factors of management information system in Keshavarzi bank of Fars province. (Mercader, J.R., Cedan, A.L. and Sanchez, R.S. (2006))

Prioritization of the indices of study variables by Friedman test

After the evaluation of study hypotheses in the previous stage, now we do the prioritization of indices and inhibiting factors of management information system based on the importance by Friedman test.

Evaluation of final hypothesis (prioritization of managing factors)

$$\begin{cases} H_0: \mu = 3 \\ H_1: \mu \neq 3 \end{cases}$$

As the significance level of test (0.000) is less than 0.05, H0 is rejected and the ranks are significantly different. In other words, there is priority capability between inhibitory managing factors indices.

Based on the results, from the view of respondents, in inhibitory managing factors, the indices "lack of long-term view in organization managers due to high movement and short management periods tenure" with mean rank 8.78 has the highest importance and "lack of motivation in managers" with mean rank 6.81 has the lowest importance.

Evaluation of final hypothesis (prioritization of structural factors)

$$\begin{cases} H_0: \mu = 3 \\ H_1: \mu \neq 3 \end{cases}$$

As the significance level of test (0.000) is less than 0.05, H0 is rejected and the ranks are different significantly. In other words, there is priority capability between inhibitory structural factors indices. (Schermerhorn, J.R. (2005))

Based on the results, from the view of respondents, in inhibitory structural factors, the component "lack of an independent and empowered unit (from human resources and equipment view) as responsible to design and implement MIS in organization" with mean rank 7.71 has the highest importance and "resistance of employees to change due to the structural weakness of organization" with mean rank 3.76 has the lowest importance. (Senn, J. (2004))

Evaluation of final hypothesis (prioritization of environmental factors)

$$\begin{cases} H_0: \mu = 3 \\ H_1: \mu \neq 3 \end{cases}$$

As the significance level of test (0.000) is less than 0.05, H0 is rejected and the ranks are significantly different. In other words, there is priority capability between inhibitory environmental factors indices. (Spremic, M. and Strugar, I. (2002))

Based on the results, from the view of respondents, in inhibitory environmental factors, the component "low quality of educational and justification systems in MIS in country" with mean rank 8.62 has the highest importance and "high costs of MIS implementation in organization" with mean rank 5.76 has the lowest importance. (Spiratava, C. (2001))

Prioritization of inhibiting factors of management information system based on importance

Finally, based on determining the priority and importance of the indices of each of managing, structural and environmental inhibiting factors in previous stages, we can say:

There is a priority capability between inhibiting factors of management information system in Keshavarzi bank of Fars province.

Table 2. Prioritization of inhibiting factors of management information system based on importance

Mean rank	Inhibiting factor	Priority
2.50	Environmental factors	1
1.77	Managing factors	2
1.73	Structural factors	3

Totally, based on the above table, from the view of respondents, environmental inhibiting factors with mean rank 2.50 have the highest importance and inhibitory structural factors with mean rank 1.73 have the lowest importance. (Turbon, E.F., Kelly, R. and Potter, R.E. (2003))

Model of study

Based on the results of data analysis and support of hypotheses, the final model of study is defined as:

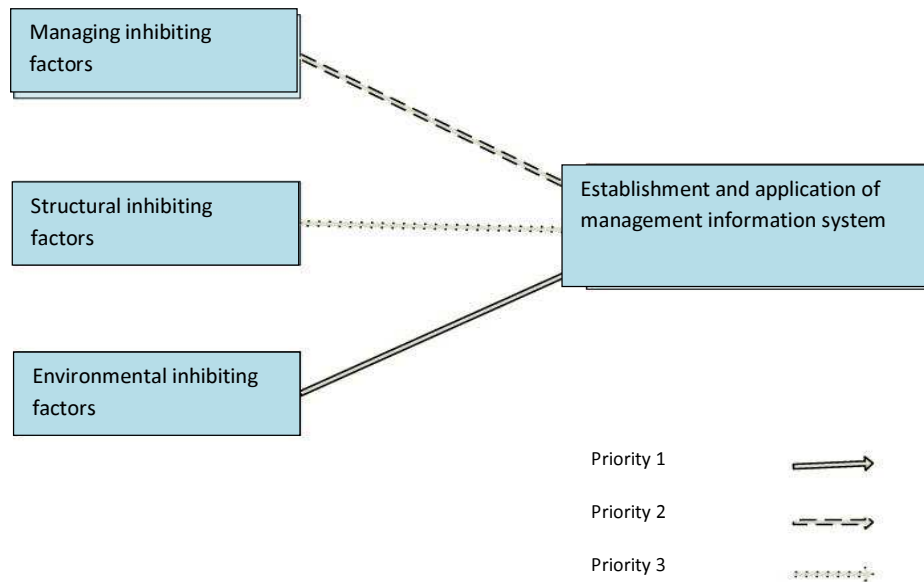


Figure 2. Conceptual model of study

## DISCUSSION AND CONCLUSION

### Main hypothesis:

There are inhibiting factors in establishment and application of management information system in Keshavarzi bank of Fars province. (K. and Spinwall, E. (2006))

According to the results, these factors based on priority and importance are including: environmental, managing and structural factors

Environmental factors

Sub-hypothesis:

Environmental factor is one of the inhibiting factors of management information system in Keshavarzi bank of Fars province.

Environmental factors include 14 items and the results of indices test show that at confidence interval 95%, inhibitory environmental factors level of management information system in Keshavarzi bank is above average. All indices as well as the above hypothesis are supported.

Managing factors

Sub-hypothesis:

Managing factor is one of the inhibiting factors of management information system in Keshavarzi bank of Fars province.

Managing factors include 14 items and the results of indices test show that at confidence interval 95%, inhibitory Managing factors level of management information system in Keshavarzi bank is above average. 13 Indices are supported and one index is rejected. Also the above hypothesis is confirmed.

Structural factors

Sub-hypothesis:

Structural factor is one of the inhibiting factors of management information system in Keshavarzi bank of Fars province.

Structural factors include 12 items and the results of indices test show that at confidence interval 95%, Structural inhibiting factors level of management information system in Keshavarzi bank is above average. 11 Indices are supported and one index is rejected. Also the above hypothesis is confirmed.

Thus, we can say:

There are inhibiting factors in establishment and application of management information system in Keshavarzi bank of Fars province.

There is a priority capability between inhibiting factors of management information system in Keshavarzi bank of Fars province.

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