Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 56-61

The impact of the management connection (CRM) on performance of general financial institutions Tehran province

Seyed mojtaba miraghaei[1], vahid shabani[2],amir ghanbari barzian[3], vahideh shabani[4]

Abstract— In competitive world today no institution can through excellence in their operations or innovation in Their products from other organizations to distinct, Except that needs and demands of customers deeply. Therefore passing through traditional economy and intensified the competition in new dimensions, The main pillar of the Jupiter and the axis of the All activities of this organization. In this intellectuals and management, marketing A copy protect customers and methods of proper connection with them as relationship management with customers (CRM) prescribed. Customer relationship management with strategy comprehensive business and marketing that is technology, process and all activities and work around Jupiter integrated. This research with the purpose of studying the influence relationship management with customers (CRM) The general performance of financial institutions in Tehran has been done. statistical sample for measurement of the amount of the components of the whole society CRM almost statistical managers-financial institutions except very small institutions have been considered. For example making to assess performance of simple random method of marketing has been used. for evaluating financial performance from the statistics and figures valid has been used. In this study analysis Data and test hypothesis by using analysis techniques diagnosing software spss. research indicates that the general result is that relationship management with customers (CRM) The operation of the general performance of marketing two aspects (loyalty trust and satisfaction) And the performance of financial investment and output growth of Sales) and effects meaningful positive.

Keywords— relationship management with customers (CRM), the function of financial performance marketing, financial institutions diagnosing analysis

INTRODUCTION

requirements and changes in the field of marketing such as eliminating the law (omitted control of the state) 1. THE WORLD 2. Companies growth new competitive pressures increasing change in customer expectations and technology New information has caused organizations in search marketing activities change in his tactical (Lindgreen, 2004).

equirements and changes in the field of marketing such as eliminating the law (omitted control of the state) 1. THE WORLD 2. Companies growth new competitive pressures increasing change in customer expectations and technology New information has caused organizations in search marketing activities change in his tactical (Lindgreen, 2004).

In competitive world today no institution can through excellence in their operations or innovation in Their products from other organizations distinct, Except that needs and demands of customers deeply. Successful organizations modern goods and services strategies by individual customers has been defined. In this intellectuals and management, marketing A copy and protect customer and the way the proper connection with them under the title management connection with Jupiter CRM) prescribed (Ellahi and Heydari, 1384). Many of definitions for relationship management with customers. One of the best definitions this is a: the process of general communications and maintain useful with Jupiter by values presented in the key customers and their consent (Cattler and Armstrong, 1383). A definition of this relation is that the management with Jupiter, Comprehensive business strategy and marketing that is technology process and all activities and work around Jupiter integrated (Fjermestad & Romano, theirs, 2003). In our country with every few-conducts the global economy during recent years discussions of nationalism and Jupiter honoring clients instead of in relations between people relations with companies and the government with the people and the necessity attention and satisfy needs and demands of customers feel serious to form. On the other hand financial institutions including units of major monetary and financial market are equipped with their own resources and guide and resources allocated to the different economic projects including public and private sources for the main The financial plans of the process

1Expert of Tax Affairs Organization, tehran, Iran
2Expert of Economy Mehr Bank, tehran, Iran
4M.A of Business Administration at isfahanUniversity,isfahan, Iran
4M.A student of Business Administration at Payam Noor University, Karaj, Iran

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 56-61

through to win the confidence and satisfaction and customers by employing a The axis of the customer strategy can achieve their goals (Poriraj, 1376). The purpose of this research is to show that using management strategy relationship with Jupiter CRM) The operation of general (performance of marketing and financial performance) financial institutions influence city of Tehran and employing strategists Jupiter- The axis of the the special relationship management with customers for these institutions is necessary. Secondary research objectives are as follows:

determining effect management connection with Jupiter CRM) on performance of marketing financial institutions city of Isfahan;and

determining effect relationship management with customers (CRM) financial performance financial institutions city of Isfahan.

A CRM structure

CRM is included in this next few cases: focusing on key customers, The organization of the voting CRM management knowledge and technology. This division in accordance with the belief that successful CRM with paying attention to four areas-key strategy individuals and the process technology to and only when all of these four areas with key coordinator Integrated and, can be a superior ability to Jupiter. For the maximum performance of a long term business in aspects such as customer satisfaction, Customer loyalty customer confidence, Output output sales and investment relations should be long term profitability and mutual customers with established, protection and strengthening (sin, and Tse Yim, 2005).

1. focusing on key customers: customers have been identified these will be defined: Customer information that identified and contact in the company. The organization can be identified through his customers. By collecting, process, and employing the data a customer transaction to create a deep understanding of the needs of their customers and the value to most loyal supporter fair For customers and provide. As the organization of the ties with their customers have been identified education, Some of them are more complete and key customers to become. Key customer is from customers known through providing higher profit and active relations or long-term a lot value income organization (Park &kim, 2003). The most important prerequisite for understanding customers and profitability the market classification. Part of the market is a pivot of philosophy Jupiter is opposite that of the mass of marketing. how much of each category more precisely, More knowledge of the customers and the possibility that services delivery is more. Its most ideal form That is part of a classification to customers individual portraits done and marketing to be done portraits. In fact cannot be like past each individual customer to. But Jupiter should be to a specific person in the form (Allbadvi, Ferdowsi and Nasser bakht, 1385). focusing on Key customers related to the concentration of on Jupiter and bringing added value to the customers continuous key The selected products offered through personal/delivery. The main aspects of the concentration on key customers include: marketing Jupiter axis, The value of key customers, the mass and its delivery of interactive marketing(Sin Tse and Yim, 2005).

2. The organization of the voting CRM: The organization of the voting CRM means fundamental changes in the way organizing processes and business. The main dimensions of the successful organization organizing around CRM include: the structure of organizational The company commitment resources and management human resources (Sin, and Tse Yim, 2005). In this research a concept of two pivotal customer bilateral cooperation is considered as including foreign marketing and internal marketing. Foreign marketing related to foreign customers are not the same consumers are final. Internal marketing in connection with domestic customers (employees organizations). Internal marketing has a close relationship with the organization of the voting CRM. Internal marketing by Berry (1981) article such definition:

"Looking at employees as internal customers, jobs to look upon as domestic products, and then Efforts to supply products of domestic needs and demands of the clients internal supply In addition to goals in an organization. But under a monument idea marketing domestic this way: the organization for having satisfied customers should employees satisfied and such jobs should be treated as domestic products (Broady- Preston & steel,2002)

3. Knowledge management based on knowledge view axis of logic or philosophy of existence created organization, Transfer and employing knowledge. From the viewpoint of knowledge including CRM data is the consumers that Can be through trial and experimental study (Sin, Tse and Yim,2005).

The approaches to KM divided into two groups:

1.The approaches based on knowing: In this approach through observation and interpretation of knowledge inherent inequality. They can be active learning among themselves by means of expression and different types of interaction. The main characteristics of knowledge in this distinct approach difficulty of expression. knowledge that easily would

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 56-61

knowledge and knowledge of speech and therefore it is difficult to transfer knowledge called implicit.

2.Approach based on the existence: this approach to knowledge as a "Black Box". characteristics of knowledge through its relation with the world has been discourse structure is defined as (Gebert et al, 2003)

3. Technology: there are three types of technology CRM in general:

1) CRM operations operations CRM CRM deals with too wide of a face with Jupiter and caused Integration of the carpet and support. In this technology business processes of the organization responsible for the front line contact with customers are (i.e., parts of sale marketing and services) support (Greenberg, 2004). CRM operations is divided into three branches: Force automation program carpet, support and customer support and marketing automation program institute (Haji Zamanali, 1383).

2)CRM analysis. CRM analytical applications that include data by customer operational tools produced In order to trade operations management analysis. Management connection with Jupiter on the reserve analysis of the organization and management of learning emphasizes (Greenberg, 2004).

3) CRM cooperative (Integrated): includes services and cooperative services is that interaction between customers and The organization and facilitation of communication with based on partnership value customers Life period beyond The exchange can help to. integrated CRM means participation communication channels between all customers with. CRM integrated solution which individuals process and has put together, In a way that organizations ability to better serve customers and keep customers. It is necessary that data and activities can structure is inherently, non-structure of, A conversation or exchange and they (Sayed Javadin and Yousefi, 1385).

method of research

The present method of research type of cause (bring cause) application is a little bit that the approach is inductive and. In this study concerning the collecting information related to the confirmation or rejection of the hypothesis of the research is to survey method (question) has been used. In This research measuring the amount of implementation of relationship management with customers a letter including 18 question question Used. It should be noticed that no simple index can be completely the nature of a few next performance of business. In this study two groups standard measurements for performance of business and the: performance of marketing (trust, the satisfaction and loyalty) And the performance of financial or economic investment and output market share). to assess the performance of marketing financial institutions of a question including 12question and to gather information related to literature research method of a library is used. Of course the information related to the financial performance of the site and collecting magazines.

For study questions question letters, And to be sure that the introducer of characteristics of the researchers need to intend to measure is how they The narrative content. For questionnaire with attention to the literature of compilation of research. For communication with function", the relation content with each other, It is clear and apparent form, being logical and setup of their management and marketing professors views use, And narrative questionnaire confirmed.

The tool module pointing to this is that the tools the conditions are the same to what extent same results. To estimate and calculate coefficient of inner survey parallelism the questionnaire are The Spectrometer was used the Kronbakh. coefficient of survey question first letter before 90. Also for focusing on key customers, polling organization CRM, Management of knowledge and technology to 84, 74, 79 and 81. To test the hypothesis of the analysis and diagnosing soft Software methods diagnosing equation has been used to an under written:

In this case it is estimated to be under expression:

In which a and b respectively and are accounted boldly. If b 0, The linear relationship and there is no crowd) for linear relation between X and B should be 0. Therefore in this test the hypothesis of this study the following expression:

Findings and results

Table 1 population information and knowledge managers sample characteristics of financial institutions Tehran shows.

The percent of frequency	Frequency	Variable
		Age
-	-	20- 29years
3.45	1	30-39years
51.72	15	40-49years
27.59	8	Over 50 years
17.24	5	Gender

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 56-61

-	-	Man
100	29	Woman
0	0	Education
-	-	Less than Ba
51.72	15	BA
41.38	12	BA
6.90	2	Master degree
0	0	PHd
-	-	Industry
58.62	17	Banking
34.48	10	Insurrance
6.90	2	Investigation
-	-	Job title
89.66	26	Branch manger
10.34	3	Deputy Branch

The results of study analysis data on the research- Based on analysis of each variable between the CRM diagnosing and each of the components of performance-showed that:

Table 1 population information and knowledge managers sample characteristics of financial institutions Tehran shows.

study the results of the analysis data on the research- Based on analysis of each various diagnosing CRM and performance of each of the components-showed that:

1. The relationship management with customers (CRM) on performance of marketing financial institutions influence Tehran city, with the increase in performance of CRM marketing financial institutions also will increase (Sig 0/000, b=0/391) diagnosing and equation as followed by:

Coefficient B is to show that for every unit increase in reduction in) in CRM, performance of marketing 391/0 unit increase reduction in). This is the result with the results of the past research including sin, Tse &Yim (2005), Camarero, Guite rrez Martun, (2005) and Dayand supported Bulte (2002).

2. The relationship management with customers (CRM) fidelity customers key financial institutions influence city of Tehran, - also will increase in CRM customers loyalty key financial institutions (sig 0/000, b 0. 561) and diagnosing equation as following:

Coefficient B is to show that for every unit increase in reduction in) in CRM, customers loyalty key financial institutions Tehran city 561/0 unit increase reduction in). This is the result with the results of the past research studies including Guite rrez, Camarero (2005) and Ayatollah (1385).

3. relationship management with customers (CRM) trust key customers financial institutions influence city of Tehran, -with the increase in CRM customers trust key financial institutions also will increase (Sig 0/000, b 0. 334) and diagnosing equation the following:

Coefficient B is to show that for every unit increase in reduction in) in CRM, customers trust key financial institutions Tehran city 334/0 unit increase reduction in). The harmony with the result of the past research results including sin, Tse and Yim (2005).

4.relationship management with customers (CRM) customers satisfaction key financial institutions influence city of Tehran,

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 56-61

- also will increase with the increase in customers satisfaction CRM key financial institutions (sig 0/000, b 0. 278) and diagnosing equation the following:

coefficient of B shows is that for every unit increase in reduction in) in CRM, customers satisfaction key financial institutions Tehran city 278/0 unit increase reduction). This is the result with the results of the past including studies research, Tse and Yim (2005) and Ayatollah (1385).

5. relationship management with customers (CRM) financial performance financial institutions influence Tehran city, -with the increase in CRM financial performance financial institutions also will increase (sig 0/000, b=0.934) and diagnosing equation without considering the constant equation (a) as followed by:

Coefficient B is to show that for every unit increase in reduction in) in CRM, financial performance 934/0 unit increase reduction in) . This is the result with the results of the past including research studies are, Tse and Yim (2005), dayand the, Krafft &Hoyer (2004), Cammarero, Gutie rrezz Martin(2005), Bulte (2002).

6. The relationship management with customers (CRM) customers satisfaction key financial institutions influence city of Tehran, -with the increase in output CRM investment financial institutions also will increase (sig 0/000, b=1.841) and diagnosing equation without considering the constant equation (a) as followed:

Coefficient B is to show that for every unit increase in reduction in) in CRM, investment output 841/1 unit increase reduction in). This is the result with the results of the past including studies research, Tse &Yim (2005), day and the, Cammarero, Gutie rrezz.

7. relationship management with customers (CRM) on the growth of sales key financial institutions influence city of Tehran, -with the increase in growth of sales CRM financial institutions also will increase (sig 0/000, b=0.948) and diagnosing equation without considering the constant equation (A) as followed by:

investment output 0/948 unit increase reduction in). This is the result with the results of the past including Research Studies Yim (2005), and the day, Hoyer Krafft (2004), Cammarero, Gutie rrezz.

The research indicates that the general result is that relationship management with customers (CRM) The general performance of financial institutions influence Tehran city, - with the increase in performance of CRM general financial institutions also will increase (Sig 0/000, b= 0.679) diagnosing and equation to a:

Coefficient B is to show that for every unit increase in reduction) in CRM, General performance of 679/0 unit increase reduction in) . This is the result with the results of the past research including Reinartz, Krafft &Hoyer (2004), day and supported Bulte, Tse&Yim (2005), Camarero, rrez Gutie, Martin (2005) (2002).

Research and suggestions limitations

Basically accurate and comprehensive research every issue need enough time and availability of all conditions that always available. Experience has shown that in any activity at every level in any case there are limitations, But the severity and the extent of restrictions on the nature of time and research is different. limitations of this research are as follows:

1:The weak sources and research and studies related to the research in the country

2: less attention in question completed by respondents and lack of familiar literature to the subject.

3: Restrictions on use of time for more than a library resources.

4: of financial resources for operations and wide use more than the library resources.

The results of this research showed that relationship management with customers (CRM) The general performance of financial institutions in Tehran. Therefore managers financial institutions can improve, strengthening and defects management system relationship with Jupiter CRM), launching of this systems, the renewed organizational structure of flexible structures and selection and compilation of operational strategies and processes in accordance with This system to increase the performance of marketing and financial performance organization help. that group of financial institutions that have so far not have been used this system According to the results of this research can launch a relationship management system with Jupiter CRM) For the organization to commit. Managers organizations in other

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 56-61

industries can increase performance of marketing and financial performance organization measures mentioned.

The results of this research is to offer managers with key focus on the customers and even the increase with Rory of the Organization for customers. This caused the increase in cost for customers and increase their loyalty in the result. With the support supreme management, processes and culture of the organization has to be pivotal customer, In a way that strengthened relations with customers.

The level of research in Tehran city financial institutions. Future researcher can be to increase the power extension vulnerability, This research in other industries and other cities and even in the country. This research is to study the influence relation management with Jupiter CRM) The operation of the general performance of marketing two aspects (loyalty trust and satisfaction) And the performance of financial investment and output growth of Sales. Future researcher can aspects of Like Jupiter and other customer commitment for performance and output marketing finance, market share and financial performance output for sale.

REFERENCES

1- Ayatollah m (1385), research management around the influence relation with the customer loyalty customers industrial Gaiem Reza, The end letter printed ma, the free University unit Najaf Abad, Isfahan.
2- albadvi,a, and devotion, 1, (1385), implemented management systems connection with Jupiter, study the commerce and number 18, 93-100.
3- albadvi,a, Ferdowsi, Naserbakht, N. (1385), the importance of scale in market management connection with Jupiter in the tourism industry on the commerce and Number 18, 101-108.
4- Ellahi . sh and Heydari, B. (1384), the management connection with Jupiter, publishing company commerce, Tehran
5- Poriraj (1376) study effective factors of all part of clients of the bank in order to improve growth and The organization of the "nation bank studied Mashhad-Tehran end the letter printed ma Ferdowsi University of Mashhad.
6- Haji zamanali, A. (1383), implemented a framework for management communication with customers in Iran organizations, The end letter printed ma, Tarbiat Modares University, Tehran.
7- Sayed Javadain, r and Yousefi, c (1385), Determining the effective factors customers fidelity Export Development Bank management with the use of the concepts communication With Jupiter, study the commerce and number 18, 82-92.
8- Cattler and Armstrong (1383), the principles of marketing, (so intensely, B. , translator, publications book, Isfahan.
9- Berry, L. (1981), "The employee as customer", Journal of Retail Banking, Vol. 3, No. 1, pp. 25-28.
10- Broady-Preston, J. & Steel, L (2002), "Internal Marketing Strategies in LIS: a Strategic management", Library Management, Vol. 23, No. 6/7, pp. 294-301.
11- Camarero, C. , Gutie´rrez, J. & San Martı´n S. (2005), "The impact of customer relationship marketing on the firm performance: a Spanish case", Journal of Service Marketing, Vol. 19, No. 4, pp. 234-244.
12- Day, G. S. & Van den Bulte, C. (2002), "Superiority in customer relationship management: Consequence for competitive advantage and performance", University of Pennsylvania.
13- Fjermestad, J. & Romano Jr, N.C. (2003), "Electronic customer relationship management: Revisiting the general principles of usability and resistance – an integrative implementation framework", Business Process Management Journal, Vol. 9 No. 5, pp. 572-591.
14- Gebert, H. ,Geib, M. , Kolbe, L. & Brenner, W. (2003), „ Knowledge-enabled Customer Relationship Management: integrating Customer Relationship Management and Knowledge Management concepts", Journal of Knowledge Management, Vol. 7, No. 5, pp. 107-123.
15- Greenberg, P. (2004), "CRM @ the Speed of Light", McGraw-Hill, New York.
16- Park, C. H. and Kim, Y. G. (2003), A framework of dynamic CRM: linking marketing with information strategy, Business Process Management Journal, Vol. 9 No. 5, pp. 652-671.
17- Reinartz, W. , Krafft, M. & Hoyer, W.D. (2004), "The Customer Relationship Management Process: Its Measurement and Impact on Performance", Journal of Marketing Research, Vol. XLI, pp. 293–305.
18- Sin L. Y.M., Tse A.C.B. and. Yim, F.H.K (2005), "CRM: conceptualization and scale development", European Journal of Marketing; Vol. 39, No.11.

Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 66-74

Queuing Systems Models to Locate the Line Machines

Hamidreza Feili*, Sina Namazi, Behnam Rezvanpour, Jamshid Karimi

***Abstract*—**This article has set to queuing systems and their application in sorting production lines; as the case study the Bahar-e-Natanz Textile Company has been studied. The purpose of this study is to find a model for the arrangement of devices in order to reduce costs, increasing production, decreasing down time of the operators and machines and also reducing inventories among the production process. To achieve these goals, we have made use of simulation. In line with this, first the layout of the factory has been identified and in the next phase, timing for the operators and machines has been made. Finally with the ED software has been focused on the simulation of the production line. Using the comparison test, validation of the model has been justified and the model was run and the simulation results have been recorded. Different models have been offered for this problem which after the simulation and extraction of information has been determined that the fourth model is the optimal one for the layout of the production line of factory under study.

***Keywords*—**Queuing systems, ordering production lines, simulation

I. INTRODUCTION

In today's world due to technological advances, organizations are trying to overtake rivals and this is not possible but with careful planning and Proper utilization of

Resources and facilities, so the managers due to the complexity of the systems should Use appropriate tools such as Linear Programming, Dynamic programming, Planning the right numbers, simulation, Queuing Theory and ... that are for the analysis of the systems, do proper planning and avoid wasting resources.

F. A. Author is assistant Professor of Industrial Engineering Department of Industrial Engineering, Islamic Azad University, Karaj Branch, Karaj, Iran (corresponding author to provide phone: +989123108647; e-mail: hrfeili@gmail.com).

S. B. Author is graduated in B.Sc., Department of Industrial Engineering, Islamic Azad University, Karaj Branch, Karaj, Iran.

T. C. Author is graduated in B.Sc., Department of Industrial Engineering, Islamic Azad University, Rasht, Branch, Rasht, Iran.

F. D. Author is graduated in B.Sc., Department of Industrial Engineering, Islamic Azad University, Karaj Branch, Karaj, Iran.

II. THE RESEARCH HYPOTHESIS

Through the simulation, we can offer a suitable model for increasing the number of production, raising the productivity coefficient of the operators, reducing the average waiting time of product, reducing production costs, minimizing the stopping of machines and balancing the arrangements of the Bahar-e- Natanz textile Company.

III. RESEARCH METHOD

Research method is from the type of the experimental (experience and experiment) studies. This kind of research is an applied one and in this article has been tried to offer a suitable model for improving the arrangement of the production line of Bahar-e- Natanz textile Company with the use of simulation due to the limitations of the issue. To do this, the information provided in books and different internal and external articles, and also have been used the information of the industrial engineering section of the factory. In this research, stimulators (Independent Variables) change the specific condition of the model in order to study and check the influence of these changes in condition or in the Behavior of the sample. The first aim of such researches is forecasting the events in the experimental conditions. However its final aim is generalizing the results of the study to a bigger and wider group than the laboratory and experimental environment (the model environment).

In experimental research, in order to discover the behavior of the choices against the change in index (indexes), one or some groups as group or experimental groups, go under special circumstances and the consequence or consequences which are obtained will be compared with one or some groups with the name of witness or witnesses groups which have not been under these conditions.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 66-74

IV. REVIEW OF LITERATURE

In production planning, the aim is effective use of the productive resources. The activity which has helped us in order to reach this purpose, we call planning regarding productive needs and effective potential of the market. Usually the productive planning takes place for a specific period. We call this period the productive planning. It is assumed that the demand rate in each period is obvious, so it is not fixed from one period to the other like the garment factory which its amount and type of productions changes during the year due to the need in each season.

A. Bahar-e-Natanz textile comapny

Despite the large number of big textile factories, clothing industry has been of minimum desirable growth in industrial scale. Whereas in the world, there are exporting units with one, two or three thousand or more number of workers, most units of clothing productions in Iran is with employment of less than five persons and little have personnel more than 100 persons and often the productive clothes of these units are of no desirable price and quality and mostly the offer takes place into the internal market and is not able to be exported. So the company after examining all aspects that was briefly described and providing its financial, technical and economic plan and after obtaining the necessary permits in the year 1389 established a productive clothing unit in Natanz industrial park and was operated in 1391.

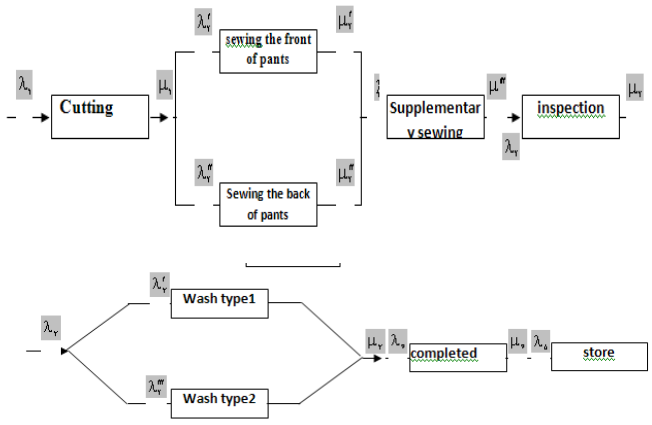


Fig. 1 Production process in Bahar-e- Natanz textile Company

Figure1 shows the Production process in Bahar-e- Natanz textile Company. Production process wholly includes four main stages of cutting, sewing, washing and completion. In the cutting of the fabric section, with the input rate... meters per hour enters into the machine and with the output rate... goes out from the machine with cut in pieces. The cut pieces enter into the temporary store after cutting in order to go into the sewing section when needed. These pieces divide into two parts, front pants... and back pants.... after the necessary steps, the front and back pieces go out with the rates of ... and ... in order and enter into the Supplementary sewing with the rate of ... in this section, both the front and the back of the pants sew up. After finishing this section, the product enters the inspection section. This section is the end of sewing unit. If the product has no problem, goes to the next stage that is washing but if it has defect, will be sent to the proper section in order to be remedied. In washing section, the pants are washed with two forms that each method has its own processes.

B. Introducing Bahar-e-Natanz factory

Cutting section

After designing the template in the designing unit, the first section which goes into the production is the cutting section. After clearing the template type and the number of the pants, the kind of fabric and the meters of consumed fabrics will be determined. Regarding the number of the ordered pants, the fabric rolls overspread on each other. On the average, from each layer of the fabric, 10 pants in different sizes will be made. Usually there are packs of 300 or 500 pants that 30 or 50 layers should be cut simultaneously. It is tried to arrange the parts of the pants so that it will have less wastes. Usually the rate of the waste is between 8 to 17 percent that is dependent on the type of the template and the consumed fabric.

The most problematic section in the production process is the sewing unit. Because the products are of different templates, the type and number of the used sewing machines for sewing pants is not the same. Wholly we can divide the sewing process into three parts, pre-sewing, back sewing and assembly section. The cut pieces in the cutting section go to the front and back parts and then after these stages go to the assembly part that in this section, the front and back pieces of the pants sew up

Washing unit

At this stage regarding the selected design, the necessary effects take place on pants. Wholly we can divide the washings into two main groups, washing first type and washing second type. It should be noted that each of these two washings includes tens of washing types because the kind of fabric and the desired effect is different. Method is such that 3 or 4 pants enter into the test machine and after adding the necessary chemicals and Enzymes are washed for a distinguished time. If the desired model came out, take the pants into the washing machine in groups and add the Specified materials to it. It should be noted that any kind of fabric and effect has its own specific values.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 66-74

Population and sampling

Wholly the Sample size formulas relate to the scale of data that we divide them on the quantity and quality and with the help of estimated average and Success rate use the specific methods for determining the sample size. To obtaining simple samples for different machines do as the following.

- Because we are not sure that the governing distribution on the machines is a normal one or not, for the start we take the sample size near 30 hypothetically.
- The taken sample size as the degree of free distribution taken as t and from the table, calculate the amount of $t_{1-\frac{\alpha}{2},n-1}$.
- We calculate the Variance of taken sample.

We use the following formula for calculating the sample size

$$n = \frac{s^2 t^2_{1-\frac{\alpha}{2},n-1}}{\varepsilon^2}$$

-

If the n obtained from the formula be identical with the imagined sample size, we stop the calculations.

In this research the $\alpha = 0/05$ and $\varepsilon = 0/1$ are imagined.

Check the cutting unit

In this section like what before explained, the fabric is cut regarding the model type and the number of orders. This unit due to the benefit of advanced machines is able to cut five times more than the daily production capacity. So we don't sense a problem in this section. But to avoid the effects of unpredictable damages and likely problems, this section is one week ahead of the sewing unit and is nearly 3500 works ahead of the sewing part. The cut pieces are maintained in temporary store for if the cutting machine was out of order, the sewing part and other parts don't stop their activity. With the study of documents, the number of cutting on different days was extracted. After that with the software Easy Fit and Chi-square test, the governing distribution on the cutting unit was calculated. We categorized the $\alpha = 0/05$ and data into 8 categories.After categorizing the data and merging the consequences, brought in the following table.

Table 1. Categorizing data

$x_i - x_{i+1}$	m_i	m_i'	$\frac{(m_i - m_i')^2}{m_i'}$
680-760	7	9/25	0/55
760-800	13	11/15	0/31
800-840	12	12/66	0/67
840-880	8	9/32	0/19
-1000 880	10	7/62	0/74
	50	50	X2=2/46

On the other hand, regarding the table we have $x^2_{0/95,2} = 5/99$ and because ٥/٩٩< ، ٢/٤٦ H0 is preserved. That is the cutting unit follows normal distribution with $\mu = 810/8$ and $\delta = 60/8$.

By checking the arrangement of sewing unit, there are wholly 37 stages in sewing unit. There have designed a specific machine for each of these stages. Some of the machines are multipurpose and some other is able to perform one activity.

In the sewing section, there are 37 machines which include 10 machines. The most widely used is called DDL that wholly in three sewing parts 14 of this machine is used. Table2 obtains the name and number of such machines.

Table 2. Machines

QTY	Machine name	row
14	DDL	1
8	LH	2
4	MO	3
2	MH	4
2	LK	5
2	VEIT	6
2	US	7
1	BROTHER	8
1	MOL	9
1	MEB	10

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 66-74

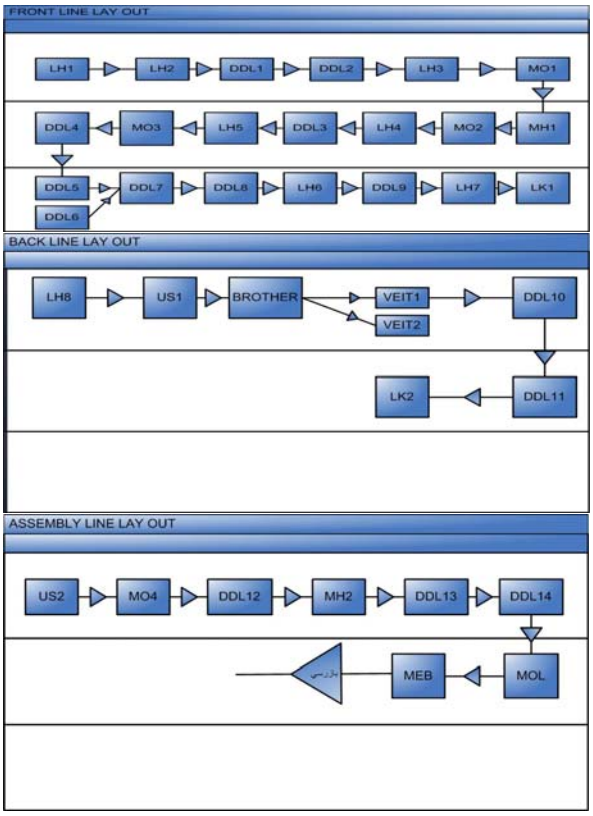


Fig.2. Factory layout

Production line simulation

Once we are familiar with the layout portion of sewing and washing and the type of activities and tasks were identified should the production line in the two part of the software, we simulated. In this project we used the enterprise dynamic software .Figure 3 and 4 simulation of the sewing unit of the simulation show thumb.

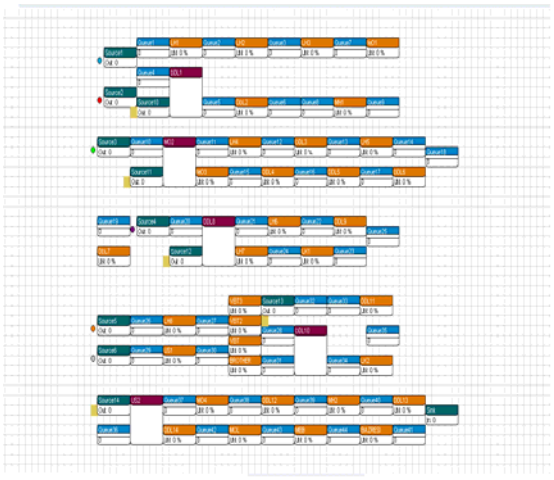


Fig3.Stitching Unit Simulation

Timing

After it was clear that for simulation we needed what times, we did timing. In this project, timing was done as such, from 7 to 15 was divided to 24 parts each 20 minutes. The first 20 minutes, the last 20 minutes and the 20 minutes which the operators stopped work for having breakfast was omitted. In these 20 minutes intervals, based on a random number achieves a random time and in that moment the timing is distinguished with the method Stop Watch. This was doing for every single machine in the sewing section. The method was because we were not sure whether the governing distribution on machines is normal, as the start we took the sample size near 30 numbers based on the random times. We took the first taken sample as the degree of the freedom of distribution t and were calculated the values from the table in the next stage, we calculated the variance of the taken sample. With the use of following formula, the sample size was calculated.

$$n = \frac{s^2 t^2_{1-\frac{\alpha}{2},n-1}}{\varepsilon^2}$$

In this project, the $\alpha = 0/05$ And $\varepsilon = 0/1$ It was selected so that determining the sample size is done with a high precision.

For example about LH2, we determine the sample size.

After taking out the first 30 samples, we calculated the sample variance. We calculated the $t_{0/975,29} = 2/045$ Value from the table and then we calculated the n value.

$$n = \frac{0/81 * (2/045)^2}{(0/1)^2} = 338/7$$

That for this machine 339 timing was done. For every single machine this Voluminous and Time consuming

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 66-74

operation was repeated. This operation with the help of factory's personnel was finished after four months and there came out about 14000 samples from different parts. In washing part because the machines were not much, and all the times were written, a little time was spent for taking samples. After the sample size was determined, we should specify the governing distribution on the cycle of machines activity. For doing this, we made use of Chi-square fitness test. About the machine LH2 after watching the histogram diagram, it seems to follow the negative exponential distribution. We did the test on the meaningful level 0.05.

With the use of software, there came out K=77/63 whiles the critical value χ^2 in the meaningful level is 5 percent more than 124. So the assumption H0 was accepted and LH2 follows the negative exponential distribution.

Table 3. Time scheduling results

MTTR	MTTF	Setup time	Machine name	row
18000	1.200.000	180	DDL	1
24000	3.600.000	120	LH	2
12000	3.600.000	145	MO	3
12000	3.600.000	60	MH	4
18000	2.400.000	45	LK	5
–	–	–	VEIT	6
18000	2.400.000	100	US	7
12000	3.600.000	50	BROTHER	8
12000	3.600.000	30	MOL	9
12000	1.200.000	30	MEB	10

Another time which must be done in the model was the running time for the machines. The running time was more related to thread replacement, needle and filling the bobbins. This time is different for various machines. For stopping different machines, there have done arrangements in the model. For stopping the operation, we should notice two parameters MTTF and MTTR which was explained before. These two times were achieved from the repair request forms in technical section. Table 3-4 shows the information about different machines and their allotted time. It should be noted that all the times are per second.

Doing tests and registering consequences

After model validation, we can evaluate the results of performing the model with the approved Percent confidence and analyze them so that we can make suitable decisions with using this information in order to reach Specified goals. The ED software can present the consequences as the output from performing the model in different fields and faces. ED can present the consequences in textual, table or in different faces for example it can show the Product waiting time for different machines or it can determine the operator's activity. The time of model performance for 2000 hours equal to 250 daily works is equivalent to one year work was done.

Selection of indicators

For testing the performed model and the next correction models, indexes were determined by experts. By considering the indicators, we can classify the different models. The experts took four indexes into consideration: 1- Spending 2- number of production 3- efficiency coefficient 4- the average time for producing each product.

Checking the consequences of current model and the proposed models

In this section, the current model of factory and 3 other proposed models are recommended and discussed.

Model number1 (the current model in factory)

After it was proved that the model is reliable, we performed the model for 2000 hours equivalent to 250 daily works. The number of produced after 250 days is visible in the sink part that was equal to 168387 number of products. Regarding table 4 and the column the average staying time we can calculate the average waiting time. Average waiting time equals the sum of waiting time of individual elements. In performing the real model, the average waiting time is equal to 27930 seconds for any pants. For calculating the efficiency coefficient, we must calculate the efficiency coefficient of individual machines and then take their average. The efficiency coefficient during and at the end of simulation time is visible on the machines. Table 5 shows the efficiency coefficient of individual machines. In this case, the systems efficiency coefficient equals 19/37. The cost in real model for one year is calculated as following:

Salary costs = (fixed salary + variable salary) = (60*38+4600*4600) = 450800

Cost of materials = (number of produced pants * cost per unit) =168387*10 =1683870

Overhead costs = (electricity cost + water cost + maintenance cost + Depreciation) = (20000 + 18000 + $220000 + \frac{140000 + 300000 + 300000}{15}$) =109000

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 66-74

The whole cost of real model = 450800+1683870+109000 = 2243670

It should be noticed that the cost is in Toman and is calculated by dividing it into 1000.

Table 4- the average waiting time of product in real condition

LH1=40%	DDL1=64.27%	LH2=23%
LH3=85.9%	MO1=10.6%	DDL2=99.2%
MH1=15.7%	LH4=20.4%	DDL3=10.9%
LH5=4.5%	MO2=82.86%	MO3=20.6%
DDL4=21.6%	DDL5=25.4%	DDL6=25.3%
DDL7=18.9%	DDL8=24.47%	LH6=25.3%
DDL9=22.4%	LH7=35.4%	LK1=24.5%
LH8=18.3%	VEIT1=52.72%	VEIT2=24.78
DDL10=74.79 %	US1=17.9%	BROTHER=29.3%
DDL11=47.6%	LK2=25.4%	US2=33.79%
MO4=53.6%	DDL12=51.7%	MH2=65.6%
DDL13=36.5%	DDL14=54.9%	MOL=44.9%
MEB=27%	CHECK=55.2 %	

Table 5 - Results of model 1

Indexes	Cost	QTY	Factor productivity	Average delay time
Actual model 1	2243670	168387	%19/37	27930

Model number 2

By checking model number2 it was determined that the machines MO2 and DDL10 are problematic during the production and Create a bottleneck. To resolve the objection, MO2 gives some of its work to MO1 and DDL10 gives some of its duty to DDL7. With these changes, all four indexes increased. The information related to the average waiting time and the efficiency coefficient is attached. The cost in this state is calculated as this.

Salary costs = (fixed salary + variable salary) =60*4600+38*4600 = 450800

Cost of materials= (number of produced pants* cost per unit) = 185730*10=1857300

Table 6- Results of model 2

Indexes	Cost	QTY	Factor productivity	Average delay time
Actual model 2	2417100	185730	%11/41	39600

Overhead costs= (electricity cost+ water cost+ maintenance cost+ Depreciation) = 109000

The whole cost of real model = 450800+1857300+109000 = 2417100

The summary for model 2 is like table 6.

Model number3

The summary for model 3 is like table 7.

Table 7- Results of model 3

Indexes	Cost	QTY	Factor productivity	Average delay time
Actual model 3	3095670	253587	%21/56	64104

Model number4

Model number3 is the high volume of work regarding machines DDL1 and MH2. To this end, DDL1 gives some of its duty to DDL4 and MH2 gives 35 percent of its work to MH1. In this model, the efficiency coefficient, cost and production rate has slight decrease compared to the previous model, but the average waiting time decreases more than three times. The tables regarding the average waiting time and the efficiency coefficient are brought in attachment. The cost calculation in this condition is as follows.

Salary costs= (fixed salary+ variable salary) = (60 * 4600 + 38 * 4600) = 450800

Cost of materials = (number of produced pants * cost per unit = 244516 * 10 = 2445160

Overhead costs = (electricity cost+ water cost+ maintenance cost+ Depreciation) = 18000 + 15000 + 20000 + 56000 = 109000

The whole cost of real model = 450800 + 2445160 + 109000 = 3004960

The final consequences in this state are brought in table 8.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 66-74

Table 8- Results of model 4

Indexes	Cost	QTY	Factor productivity	Average delay time
Actual model 4	3004960	244516	% 76/53	20026

The analysis of results

After the desired results from the different models came out, it is its turn that these four models are compared and the ranking be applied to them. To this end, we use the TOPSIS method for groups regarding ranking the models. Before we can use this method, we should ask the ideas of experts on the indexes that each expert takes according to the data, his vision and recognition gives meaning to each of the four indexes. In this project, we have used from the ideas of two experts that both of them were members of the board of directors and are also university teachers that have enough experience in production and selling affairs. Moreover was used from the ideas of two persons from Internal weighting model that was obtained from the entropy techniques from the internal weight model.

At first, we use the entropy technique for obtaining the internal weight model. To this end, the gathered information from all models is collected in table 9.

Table 9- the collected information

Indexes / models	Cost	QTY	Factor productivity	Average delay time
A1	2243670	168387	%19/37	27930
A2	2419100	185730	%11/41	39600
A3	3097670	253587	%21/56	64104
A4	3006960	244516	%76/53	20026

At first step, we should change the contained information from this matrix to the form pij through the following equation that its result is shown in table 11.

$$P_{ij} = \frac{r_{ij}}{\sum_{i=1}^{m} r_{ij}}; \forall i, j$$

Table10 - proposed matrix models

Indexes / models	Cost	QTY	Factor productivity	Average delay time
A1	.0070	0.064	0.070	0.089
A2	0.076	0.070	0.077	0.127
A3	0.097	0.096	0.105	0.205
A4	0.094	0.093	0.101	0.064

And for Ej from the set Pij for each characteristic we have:

$$E_j = -K\sum_{i=1}^{m}[P_{ij}.LnP_{ij}]; \forall j$$

And finally for weights (wj) from the available indexes we will have:

$$K = \frac{1}{Lnm}$$

That in table 11 we have:

Table11. The consequences of indexes

Indexes	Cost	QTY	Factor productivity	Average delay time
E_j	987/0	983/0	989/0	967/0

Now the unreliability or deviation degree (dj) from the created information for the j index is as table 12:

Table12. The consequences of indexes

Indexes	Cost	QTY	Factor productivity	Average delay time
Dj	013/0	017/0	011/0	033/0

So we have:

$$W_j = \frac{d_j}{\sum_{J=1}^{n} d_j}; \forall_j$$

On the other hand, the first expert allocates the following weights to the indexes.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 66-74

Table13. The consequences of indexes

Indexes	Cost	QTY	Factor productivity	Average delay time
Wj	176/0	230/0	149/0	445/0

The second expert takes these weights for the indexes

W_1' = (W1, W2, W3, W4)
= (0.176, 0.230, 0.149, 0.445)

After came out the ideas of different people, we must calculate the final weights for each index with using the following formula. In this respect, shows the i weight (from m choice) with the use of the p member idea from the decision makers.

The final weights for the indexes will be as following:

W_2' = (W1, W2, W3, W4)
=(0.4, 0.3, 0.2, 0.1)

W_3' = (W1, W2, W3, W4)
= (0.35, 0.30, 0.15, 0.20)

After the final weights were distinguished, we can use the Topsis method. At first stage, we change the information available in table 7 to an un-scaled matrix by using the following relation. (table14).

Table 14. The results of indexes

Indexes / models	Cost	QTY	Factor productivity	Average delay time
A1	205/0	185/0	204/0	249/0
A2	221/0	204/0	225/0	353/0
A3	284/0	278/0	308/0	572/0
A4	275/0	268/0	295/0	179/0

The second step:

Creating un-scaled weighty matrix given vector w as input to algorithm**.**

$$V = N_D.W_{n\times n}$$

Table 15. The consequences of indexes

Indexes / odels	Cost	QTY	Factor productivity	Average delay time
A1	0.086	0.065	0.016	0.038
A2	0.093	0.072	0.017	0.053
A3	0.119	0.098	0.023	0.086
A4	0.116	0.095	0.022	0.027

The third step: we define the ideal solution and the negative ideal solution for ideal choice (A+) and the negative ideal choice (A-).

$$A^+ = \left\{(\max\ V_{ij} \middle| j \in j), (\min\ V_{ij} \middle| j \in J') | i = 1,2,...m\right\} = \left\{V_1^+, V_2^+, ..., V_n^+\right\}$$
$$A^- = \left\{(\min\ V_{ij} \middle| j \in J), (\max\ V_{ij} \middle| j \in J' | i = 1,2,...m\right\} = \left\{V_1^-, V_2^-, ..., V_n^-\right\}$$
$$A^+ = \{0.086, 0.148, 0.033, 0.027\}$$
$$A^- = \{0.173, 0.065, 0.016, 0.086\}$$

The fourth step of calculating distance:

$$di = \left\{\sum_{J=1}^{n}(V_{ij} - V_j^+)^2\right\}^{0/5}; \quad i = 1,2,...,m$$

$$di = \left\{\sum_{J=1}^{n}(V_{ij} - V_j^-)^2\right\}^{0/5}; \quad i = 1,2,...,m$$

d1+=0/085 d1-= 0/099
d2+=0/082 d2-=0/087
d3+=0/085 d3-=0/064
d4+= 0/062 d4-=0/088

The fifth step in calculating the relative proximity Ai to ideal

$$CL_{i+} = \frac{d_{i-}}{d_{i+} + d_{i-}}, i = 1,2,...,9$$

CL1+=0.538 CL2+=0.515 CL3+=0.430 CL4+=0.587

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 66-74

The sixth step: ranking the choices in the order of preference is:

1- A4 , 2 – A1 , 3– A2 , 4- A3

It is versioned that the fourth model is the best choice and the current real model is in the second rate.

V. CONCLUSION

After performing the four models and registering and checking the consequences we come to this conclusion that the fourth model is the best index regarding all four indexes. For comparing the current model and the fourth proposed model we again compared each one for 10000 hours equivalent to 5 yearly works. If Shargh Jame factory perform this model, will reach to the following benefits:

-raising 53 percent of efficiency rate

-decreasing 40 percent of average waiting time for each unit of product

-raising 2 percent of production

The only index which the current model is better than the fourth model is the cost index that all the three other models cover it. The cost of model 4 is 33 percent ahead of the cost of the current model. So it is proposed to the manager and the supervisors of production to use model 4 instead of the current model. The difference of model 4 with the current model is in the following points:

-allocating 40 percent of DDL2 activities to DDL3

-LH3 gives 35 percent of its works to LH3

-MO2 gives 30 percent of its works to MO1

-DDL10 divides its work with DDLV

-DDL1 gives some of its activities to DDL4

-MH2 gives 35 percent of the activity volume to MH1

From the benefits of model4 is that it is not necessary to add a new machine and operator. It is not necessary to overwork and because of the multi work of the operators, from any moment that the manager wants, he can easily and quickly and without any cost it is performable. For the next researches, we can do the models in the longer horizons. Using the phase data we can affront suitable solutions ahead of the supervisors. Using the beneficial models like the genetic algorithm and the nerve networks would help a lot in making the results better. With using the experts' ideas, we can extract more ideas and do the rankings based on them with more correctness. On the other hand, we can calculate the a series of the quality indexes based on the other suitable ways and mix it with the consequences of simulation and reach to comprehensive and whole consequences that take into account all aspects and give credence to it.

REFERENCES

[1] Aksoy, Hafzullah, Use of Gamma Distribution in Hydrological Analysis, TURKEY, Istanbul Technical University, 1999.

[2] B.COOPER, ROBERT, QUEUEING THEORY, ENCYCLOPEDIA OF COMPUTER SCIENCE, Fourth Edition, 2010.

[3] Bobbio, Andrea, Birth Death processes and Queuing Systems, Anro Accademico, 2012.

[4] Bolch & Eta1, Queuing Networks and Markof Chains, Canada, John Willey & Sons, 2006.

[5] Borson & Eta1, the WIYN Queue: Theory Meets Reality, National Optical Astronomy, 1996.

[6] Ching, Wai- ki, Markof Chains: Models, Algorithms and Applications, Hong Kong, Springer Science, 2006.

[7] Chung, Christopher, Simulation Modeling Handbook, 2 USA, CRC Press LLC, 2009.

[8] Church, Newman, Using simulation in the optimization of food service delivery, Emerald, 2000.

[9] Elfattah, Abd, Goodness of fit Tests for Logistic Distribution using the Stabilized probability plot, Journal of Applied Science Research, 3, 2013.

[10] GOMEZ, Fernandez, Garcia, Using Genetic Algorithms to resolve layout problems in facilities where there are aisles, ELEVIER, 2010.

Hamidreza Feili has the BEng, MEng and PhD degrees in Industrial Engineering. He received the BEng degree from Sharif University of Technology, Tehran, Iran, in 1989, MEng degree from Iran University of Science and Technology, Tehran, Iran, in 1992, the PhD degree from Tarbiat Modares University, Tehran, Iran, in 2000. He is a Faculty Member of University. He teaches currently in many of universities in Tehran such as: Tehran University, Khaje Nasir Toosi University of Technology, Iran University of Science and Technology and Islamic Azad University.

In the past two decades, he has been conducting research in multiple criteria decision analysis, multiple-objective optimization, intelligent decision support systems, hybrid quantitative and qualitative decision modeling using techniques from operational research, artificial intelligence, and systems engineering and dynamic system modeling, simulation, and control for engineering and management systems, production planning and scheduling, quality modeling and evaluation, supply chain modeling and supplier assessment, the integrated evaluation of products, systems, quality function deployment (QFD), and failure mode and effects analysis (FMEA),etc.

He has published a significant number academic papers in a wide variety of peer reviewed journals and conferences.

Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

Solving Tourism Problemsof ShirazUsing SWOT StrategicModeland FUZZY ANP Hierarchical Analysis Method

Hamidreza Feili*,Ramin Arghandeh, Ashkan Golmohammadi, Afshin JalilzadehAghdam, Koosha Ramzi

Abstract-Tourism industry today is one of the largest and highest-yielding activities in the economic, social, and cultural development of countries. That is why many nations in the world, especially the developing countries, recently consider it an industry of special importance. Urban tourism is one of the different types of tourism that attracts more attention. Our purpose in this article was to introduce a method for cities to identify their tourism problems, find strategies for solving them, and prioritize these strategies according to their importance and implement them. We studied tourism problems Shiraz, a city with great potential with respect to very noteworthy touristic attractions and historical and cultural monuments, faces in developing its tourism industry and its economic, social, and other sectors. We first used the strategic SWOT model and identified the strengths and weaknesses of tourism in Shiraz, and obtained strategies for developing its tourism. Following that, we employed the Fuzzy ANP hierarchical method of analysis and prioritized the factors and strategies.

Keywords-Tourism problems, Shiraz, SWOT, Fuzzy ANP hierarchical analysis method

I.INTRODUCTION

Today, tourism industry is considered an important and effective sector in world economy and, among the various types of tourism, historical, cultural, religious, and natural attractions are the fundamental factors in the sustainable development of tourism. The special geographical location of Iran, and the diversity of its natural, historical, and cultural phenomena, have caused it to be one of the countries of the world that have the potential to attract tourists.

F. A. Author is assistant Professor of Industrial Engineering Department of Industrial Engineering, Islamic Azad University, Karaj Branch, Karaj, Iran (corresponding author to provide phone: +989123108647; e-mail: hrfeili@ gmail.com).

Other. Authors, are undergraduate, Department of Industrial Engineering, Islamic Azad University, Karaj Branch, Karaj, Iran.

Despite the numerous touristic attractions Iran enjoys, tourism in this country has been faced withvarious problems and obstacles in attracting tourists that have prevented its development. World tourism is a trend that has existed in its special forms in human communities from the past to the present time and has gradually followed its evolutionary course during historical periods. This phenomenon is generally based on the foundation of the main element of travel and displacement, itself born of man's various mental, cultural, social, and economic needs (1). Economic development is one of the most important factors in tourism, and one of the main effects of economic growth is rapid growth is job creation, and this factor has been effective in the development and expansion of job opportunities for the various sectors of societies. Created job opportunities are very useful for countries with young populations seeking work. Statistics show that for every 10 tourists entering a host country, one job opportunity is created.

Generally, touristic centers, touristic attractions, and recreational centers are more frequently found in cities than in villages. Because of the developments in technology and communications, and due to insufficient physical activity of people, lively and cheerful urban spaces have become a necessity. That is why cities are suitable places for passing leisure time. Since tourism is now considered an industry, we need to pay special attention to it; and as third world countries have one-dimensional economies, they can achieve economic sector by investing in their tourism industries. Iran is no exception to this rule, and it can achieve a worthy position in the tourism industry through correct planning (2). Tourists travel all over the world to visit historical places, have a good time, see their relatives, go to religious and pilgrimage sites, etc. Tourism has very varied attractions and tourists visit places based on

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

what they like. Among the attractions of tourism, historical attractions and antiquities are the most important (4); and in this relation, Fars Province enjoys a special position because it has more than 3000 historical, religious, and natural attractions more than 1028 of which are registered in the list of national heritage. Shiraz, as the capital city of Fars Province, is one of the large cities of Iran and is located in the southwest of it (3). As a historical city with a long history, Shiraz has numerous historical monuments and buildings. There are unique historical spaces in Shiraz city center that have turned it into one of the tourist attraction centers of the world. Therefore, development of the tourism industry in this city is of great importance (4). Our purpose in conducting this research, and in writing this article, was to identify the strengths and weaknesses, and the opportunities and the threats, related to tourism industry in Shiraz, to offer strategies for its development, to prioritize these strategies (and the related factors), and to recommend the best strategy.

II.STATEMENT OF THE PROBLEM

Since most cities in Fars Province are deprived ones and face high youth unemployment rates, it is necessary to take actions through grasping all possibilities and utilizing all capabilities in order to eliminate this deprivation, to create jobs, and to offer opportunities for people to earn incomes in different ways. Expansion of the tourism industry is very important as it interacts with different sectors such as the economy, the agriculture, the culture, the environment, and services (1). Expansion of tourism in the areas related to economy creates job opportunities, brings in foreign currency, upgrades people's standard of living, sells services, and earns revenues. In the social-cultural area, expansion of tourism results in the building of special centers that greatly help in the preservation of the art and handicraft of the host society leading to the sustainable development of the city. Shiraz also has many potential opportunities in the area of attracting tourists, and correct identification of these potential opportunities (and determination of the importance of each one of them) can turn these potential opportunities into actual ones.

III.IMPORTANCE OF TOURISM

With the advent of the 21st century, the tourism industry has turned into one of the top revenue-generating industries in the world. There is intense competition between many countries to attract tourists, and tourism industry, as a dynamic industry with unique features, constitutes an important part of the activities of developed and developing countries. Based on predictions made by the Tourism Organization, in the year 2020 there will be one 1.560 billion tourists in the world, and revenues earned from international tourism in that year will amount to 1.5 trillion dollars (5). Therefore, in this article, we dealt with the identification of the problems facing tourism in Shiraz, used the SWOT technique to offer strategies for solving these problems, and prioritized these strategies so that this city can receive a part of the revenues that result from international tourism.

IV.RESEARCH QUESTIONS

1. What are the required conditions and infrastructure for achieving sustainable development in Shiraz with the purpose of promoting the tourism sector?
2. Can coordinating city development plans and urban tourism result in the sustainability of both?

V.PURPOSES OF THE RESEARCH

Special attention is paid to the tourism sector in the five-year development plans of the government in Iran. Furthermore, at present UNESCO considers Iran as one of the top ten countries in the world with respect to touristic attractions and national and historical monuments (with Shiraz being one of the countries in Iran with numerous touristic attractions); however, Iran has been called a world in a village of the 21st century. Therefore, our purposes in this research were to study the tourism capabilities of Shiraz as a region that attracts tourists from the Middle East and the rest of the world, and to examine future challenges and opportunities of tourism in this city. We have also offered strategies for achieving sustainable tourism in Shiraz

VI.METHODOLOGY

Shiraz extends from the center of Fars Province on a plain 120 kilometers long and 15 kilometers wide.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

Its longitude is eastern and from 52° 29′ to 52 ° 36′ , and its latitude northern and from 29° 33′ to 29°41′ . Shiraz is 900 kilometers from Tehran. This was a descriptive-analytic research in which library and field studies were used to understand and examine the present situation in Shiraz with respect to tourism industry by employing the SWOT and ANP techniques to study and analyze threats and opportunities related to strategic factors involved in the development of the tourism industry in Shiraz.

Countless factors play roles in tourism development, and the relationships between these factors, and their interactions, shape this development. The three basic factors in tourism development are tourists, people living in the region, and the characteristics of the region. In other words, guests, hosts, and attractions are the three main factors in tourism development. The three main dimensions of tourism ate capital, management, and technology, with the two minor pillars being natural factors and the collection of cultural heritage. Organization, tourism structure, and capital are among the essential and basic foundations that shape tourism (tourism industry). Suitable and advanced technology acts as infrastructure and transforms tourism through the passage of time. Capital is the main factor influencing the political, economic, social, and cultural parameters involved in the ever-present trend of tourism. Of course, it must be taken into consideration that at present most investments in tourism are made by the government, and that strategies must be introduced for encouraging private sector, and foreign, investors to invest in tourism too. Tourism takes shape based on these factors and is analyzed and studied in its different dimensions.

VII. RESEARCH TOOLS

The SWOT technique, which was developed in 1960, is an important tool in decision-making (Learned et al., 1965). This matrix is used for planning strategic issues and acts by identifying and defining effective factors (internal or external) influencing the related organization, and is classified in the format of strengths, weaknesses, opportunities, and threats (7). Strengths and weaknesses are internal factors of the organization, but opportunities and threats are factors that are imposed on it from the outside and the organization has no control over them. After prioritizing these criteria and ranking them, the strategy of the organization is defined. The strategy used in this matrix is to employ organizational strengths for eliminating or diminishing organizational weaknesses and also to utilize opportunities outside of the organization or use them to cope with threats against the organization (8). The strategies of this matrix are as follows:

SO = (Offensive tactics of using the internal strengths of the company through utilizing external opportunities)

ST = (Using company strengths to prevent or reduce the effects of external threats)

WO = (Improving internal weaknesses through utilizing external opportunities)

WT = (Employing defensive tactics to reduce internal weaknesses and to avoid threats) (9).

The SWOT matrix is not able to rank these strategies with respect to their importance; therefore, it will need tools at the next stage to do this. We used the Fuzzy ANP technique to give scores to strategies. ANP (analytic network process) is the improved form of the AHP (analytic hierarchy process) technique, uses many of the feedbacks and mutual relationships between criteria, and makes accurate calculations for many complexmodels.

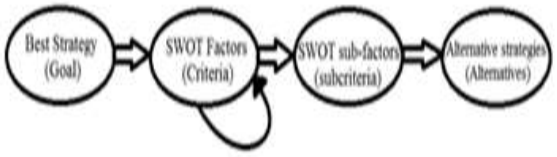


Figure 1: the structure of the SWOT model in the ANP network

The Fuzzy ANP technique has been proposed for the SWOT matrix (10). In this technique, matrix factors, sub-factors, and alternatives are identified first and are entered into the matrix.

VIII. ANP NETWORK MATRIX

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

$$W=\begin{bmatrix} 0 & 0 & 0 & 0 \\ W_1 & W_2 & 0 & 0 \\ 0 & W_3 & 0 & 0 \\ 0 & 0 & W_4 & I \end{bmatrix}$$

First row: GOAL
Second row: SWOT FACTORS
Third row: SWOT SUB-FACTORS
Fourth row: ALTERNATIVES

In Table (1), an example of triangular fuzzy numbers is presented. These numbers are used for transforming linguistic variables.

Table 1: An example of fuzzy numbers defined in the Fuzzy

Verbal scale of relative importance	Triangular fuzzy scale	Triangular fuzzy scale in the other side
Same	(1,1,1)	(1,1,1)
Equal importance	(1/2,1,3/2)	(2/3,1,2)
Relatively more important	(1,3/2,2)	(1/2,2/3,1)
More important	(3/2,2,5/2)	(2/5,1/2,2/3)
Very important	(2,5/2,3)	(1/3,2/5,1/2)
Exactly very important	(5/2,3,7/2)	(2/7,1/3,2/5)

IX. Hierarchical Analysis Method

Determining the priorities of SWOT matrix strategies by using the ANP algorithm:

Step 1: Identification of the SWOT matrix and of the sub-factors of SWOT factors, and determination of strategies by studying these sub-factors

Step 2: Determination of the degree of importance of the matrix by using the table of fuzzy scores, assuming there are no dependencies between matrix factors (Calculation)

Step 3: Determination of the mutual dependencies between SWOT matrix factors. The dependency of each SWOT factor is determined by considering its other factors (Calculation)

Step 4: Determination of the degree of importance of the sub-factors of SWOT factors by using relation (1):

$$(W_{factors} = W_2 \times W_1) \quad (1)$$

Step 5: Determination of the relative degree of importance of the sub-factors of SWOT factors by using the table of fuzzy scores

Step 6: Determination of the general degree of importance of the sub-factors of the SWOT factors by using relation (2):

$$W_{sub-factors(\boldsymbol{global})} = W_{factors} \times W_{sub-factors(local)} \quad (2)$$

Step 7: Prioritization of strategy alternatives considering each sub-factor of the SWOT factors by using the table of fuzzy scores (calculation of W_4)

Step 8: Determination of the general priorities of the strategy alternatives by considering the internal relationships between SWOT matrix factors through using relation (3):

$$W_{alternatives} = W_4 \times W_{sub-\boldsymbol{factors}(global)} \quad (3)$$

X. Use of the Fuzzy ANP Hierarchical Analysis Method and of the Strategic SWOT Model for Identification and Prioritization of Effective Factors in the Development of Shiraz Tourism Industry:

Step 1: The goal of this step was to assess internal factors for the identification of strengths (Strengths=S) and weaknesses (Weaknesses=W) and external factors for the identification of opportunities (Opportunities=O) and threats (Threats=T) involved in the development of Shiraz tourism industry. These factors were identified by carrying out studies and through using expert opinion. The obtained results are presented in Table 1.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

Table 2: Effective factors in the development of tourism in Shiraz

Internal factors		External factors	
Strengths	Weaknesses	Opportunities	Threats
Presence of valuable natural resources such as rivers, valleys, mountainsides, etc.	It is very warm in summer	Jon creation and sustainable revenue generation for the local community	Overutilization of the desert environment
Presence of rich historical attractions and antiquities such as the Persepolis, Pasargadae, Naqsh-e Rustam, etc.	Insufficient signs and expert personnel to guide tourists	Proximity of Shiraz to the other tourism center of Iran (Isfahan)	Negative propaganda in foreign media against Iran
Presence of religious and pilgrimage sites that attract tourists such as Shahcheragh Tomb, Sayyed Aladdin Hossein Tomb, Vakil Mosque, etc.	Lack of or insufficient residential and catering facilities	Involving the private sector in the process of planning tourism development	Lack of economic security of investments made in the tourism sector
Presence of social and cultural resources and attractions such as Tomb of Hafez, Tomb of Saadi, and centers including Pars Museum, Haft Tanan Museum, etc.	Lack of suitable advertisements for providing information concerning touristic attractions inside the city	Increased government attention to planning and investment in the tourism sector	Environmental threats and damages inflicted on historical , cultural , and natural monuments
Very close proximity of touristic regions	Tourism congestion during holidays	Cultural exchanges	Urban traffic problems of Shiraz

Five instances of each of the strengths, weaknesses, opportunities, and threats listed in Table 2 were identified. The SWOT method was then used to offer SO, ST, WO, and WO strategies in the format of a SWOT matrix presented in Table 3.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

Table 3: Analysis of Shiraz tourism strategies based on the SWOT model

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

External factors / Internal factors		Strengths = S	Weakness = W
		S1= Presence of valuable natural resources	W1= Very warm weather in summer
		S2= Presence of cultural touristic attractions and rich antiquities	W2=Insufficient signs and expert personnel to guide tourists
		S3= Presence of pilgrimage and religious sites and attractions	W3= Insufficient residential and catering facilities
		S4= Presence of social and cultural resources and attractions	W4= Lack of appropriate advertisement for providing information concerning touristic attractions located inside the city.
		S5= Very close proximity of touristic sites	W5= Tourist congestion in holidays
Opportunities = O	O1= Job creation and sustainable generation of income for the local community	SO	WO
	O2= Proximity to the other tourism center of Iran (Isfahan)	Use of various touristic attractions in Shiraz to interest private sector and government investments for expanding tourism and for attracting from nearby touristic regions	Improvement of guidance, information services and residential and accommodation services through private sector and government investments
	O2= Proximity to the other tourism center of Iran (Isfahan)		
	O4 = Increased attention of the government to planning and investing in the tourism sector		
	O5= Cultural exchanges		
Threats = T	T1= Overutilization of the desert environment	ST	WT
	T2= Negative foreign media advertisement against Iran	Suitable advertisement for introducing touristic attractions with the purpose of expanding sustainable development of tourism that causes suitable and sustainable use of the environment and prevents the destruction of sensitive historical texture	Providing information regarding the correct use of touristic regions, estimating the touristic capacity, and managing the organization of tourism
	T3= Lack of economic security of investments in tourism		
	T4= Environmental threats and damages inflicted on historical, cultural, and natural monuments		
	T5= Urban traffic problems of Shiraz		

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

Table 4: SWOT factors assuming there were no dependencies among them

SWOT Factors	Strengths	Weaknesses	Opportunities	Threats	W_i
Strengths	(1,1,1)	(1.68,2.20,2.71)	(1.19,1.76,2.35)	(1.47,1.83,2.20)	0.38
Weaknesses	(0.36,0.45,0.59)	(1,1,1)	(1.08,1.31,1.54)	(0.89,1.23,1.61)	0.22
Opportunities	(0.42,0.56,0.84)	(0.64,0.76,0.92)	(1,1,1)	(1.31,1.54,1.77)	0.21
Threats	(0.45,0.54,0.68)	(0.62,0.81,1.12)	(0.56,0.64,0.76)	(1,1,1)	0.17

Step 2: Given there were no dependencies among SWOT factors, paired comparisons were performed for prioritizing the degrees of importance using triangular fuzzy numbers (6).

The W_i's were calculated as follows. The W in each cell was obtained using the formula $W=\frac{a+4b+c}{6}$ (the fuzzy number is in the form of [a, b, c]). The mean of the W's derived in each row was then determined, the means were added together and their sum wascalledW_r. Finally, the mean derived for each row was divided by W_t to obtain its W_i.

$$\mathbf{W_i} = \begin{bmatrix} \mathbf{S} \\ \mathbf{W} \\ \mathbf{O} \\ \mathbf{T} \end{bmatrix} = \begin{bmatrix} \mathbf{0.38} \\ \mathbf{0.22} \\ \mathbf{0.21} \\ \mathbf{0.17} \end{bmatrix}$$

Step 3: At this step, given the dependencies among SWOT factors, its matrix is formed considering each of the constituent factor and the priorities are determined.

Table 5: The matrix of internal dependencies among matrix factors considering the strengths

Strengths	Weaknesses	Opportunities	Threats	$\mathbf{W_i}$
Weaknesses	(1,1,1)	(1.14,1.36,1.59)	(0.96,1.36,1.59)	**0.37**
Opportunities	(0.62,0.73,0.85)	(1,1,1)	(1.18,1.57,1.97)	**0.35**
Threats	(0.73,0.85,1.04)	(0.50,0.63,0.84)	(1,1,1)	**0.28**

Table 6: The matrix of internal dependencies among SWOT factors considering the weaknesses

Weaknesses	Strengths	Threats	$\mathbf{W_i}$
Strengths	(1,1,1)	(1.53,1.96,2.40)	**0.66**
Threats	(0.41,0.51,0.65)	(1,1,1)	**0.34**

Table 7: The matrix of internal dependencies among SWOT factors considering the opportunities

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

Oportunities	Strengths	Threats	W_i
Strengths	(1,1,1)	(1.73,2,2.35)	**0.67**
Threats	(0.42,0.50,0.57)	(1,1,1)	**0.33**

Table 8: The matrix of internal dependencies among swat factors considering the threats

Threats	Strengths	Weaknesses	Opportunities	W_i
Strengths	(1,1,1)	(1.29,1.72,2.17)	(1.85,2.24,2.63)	**0.49**
Weaknesses	(0.46,0.58,0.77)	(1,1,1)	(1.15,1.54,1.94)	**0.31**
Opportunities	(0.38,0.44,0.54)	(0.51,0.64,0.86)	(1,1,1)	**0.29**

Based on these tables, the matrix of the dependencies among SWOT groups was derived as follows:

$$W_2 = \begin{bmatrix} 1.00 & 0.66 & 0.67 & 0.49 \\ 0.37 & 1.00 & 0.00 & 0.31 \\ 0.35 & 0.00 & 1.00 & 0.20 \\ 0.28 & 0.34 & 0.33 & 1.00 \end{bmatrix}$$

The zeroes in this matrix represent lack of dependencies among the factors.

Step 4: At this step, considering the dependency relationships among SWOT factors, its matrix was formed by taking into account each of the constituent factors and the priorities are determined.

$$W_{factors} = W_2 \times W_1$$

$$= \begin{bmatrix} 1.00 & 0.66 & 0.67 & 0.49 \\ 0.37 & 1.00 & 0.00 & 0.31 \\ 0.35 & 0.00 & 1.00 & 0.20 \\ 0.28 & 0.34 & 0.33 & 1.00 \end{bmatrix} \times \begin{bmatrix} 0.38 \\ 0.22 \\ 0.21 \\ 0.17 \end{bmatrix}$$

$$= \begin{bmatrix} 0.749 \\ 0.413 \\ 0.377 \\ 0.420 \end{bmatrix}$$

The derived answer showed that the priorities of SWOT factors differed compared to when the internal dependencies were ignored.

Step 5: At this step, we used the matrix of paired comparisons to calculate the relative priorities of the sub-factors of SWOT factors. These calculations include the four tables of the degrees of relative importance of strengths, weaknesses, opportunities, and threats. We have presented the calculations related to the table of the relative degrees of importance of strengths as an example and only the results derived from the other tables.

Table 8: The degrees of importance of the strengths

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

Strengths	S1	S2	S3	S4	S5	
S1 = Presence of valuable natural resources	(1,1,1)	(0.39, 0.43, 0.46)	(0.84, 1.02, 1.20)	(0.47, 0.72, 0.97)	(0.76, 0.87, 0.98)	0.15
S2 = Presence of rich historical attractions and antiquities	(2.17, 2.32, 2.56)	(1, 1, 1)	(1.27, 1.64, 2.03)	(0.95, 1.13, 1.34)	(2.04, 2.21, 2.43)	0.30
S3 = Presence of attractive of pilgrimage and religious sites	(0.83, 0.98, 1.19)	(0.49, 0.60, 0.78)	(1, 1, 1)	(0.90, 1.07, 1.22)	(0.94, 1.32, 1.87)	0.18
S4 = Presence of social and cultural attractions	(1.03, 1.38, 2.12)	(0.74, 0.88, 1.05)	(0.81, 0.93, 1.11)	(1, 1, 1)	(1.67, 1.99, 2.36)	0.23
S5 = Very close proximity of the touristic sites to each other	(1.02, 1.14, 1.31)	(0.41, 0.45, 0.49)	(0.53, 0.75, 1.06)	(0.42, 0.50, 0.59)	(1, 1, 1)	0.14

The obtained results are as follows:

$$\mathbf{W}_{\mathbf{sub-factors(strengths)}} = \begin{bmatrix} \mathbf{0.15} \\ \mathbf{0.30} \\ \mathbf{0.18} \\ \mathbf{0.23} \\ \mathbf{0.14} \end{bmatrix}$$

$$\mathbf{W}_{\mathbf{sub-factors(weaknesses)}} = \begin{bmatrix} \mathbf{0.19} \\ \mathbf{0.23} \\ \mathbf{0.17} \\ \mathbf{0.15} \\ \mathbf{0.26} \end{bmatrix}$$

$$\mathbf{W}_{\mathbf{sub-factors(Opportunities)}} = \begin{bmatrix} \mathbf{0.26} \\ \mathbf{0.18} \\ \mathbf{0.22} \\ \mathbf{0.19} \\ \mathbf{0.15} \end{bmatrix}$$

$$\mathbf{W}_{\mathbf{sub-factors(Threats)}} = \begin{bmatrix} \mathbf{0.22} \\ \mathbf{0.15} \\ \mathbf{0.18} \\ \mathbf{0.31} \\ \mathbf{0.14} \end{bmatrix}$$

Step 6: At this step, we multiplied the priority weights of SWOT factors that were obtained in Step 4 by the priority weights of the sub-factors. The results are presented in Table 9.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

Table 9: The relative degrees of importance of strengths

SWOT factors	Priority of the factors	SWOT sub-factors	Priority of the sub-factors	Overall priority of the sub-factors
Strengths	0.749	(S1)	0.15	0.112
		(S2)	0.30	0.224
		(S3)	0.18	0.134
		(S4)	0.23	0.172
		(S5)	0.14	0.104
Weakness	0.413	(W1)	0.19	0.078
		(W2)	0.23	0.094
		(W3)	0.17	0.070
		(W4)	0.15	0.061
		(W5)	0.26	0.107
Opportunities	0.377	(O1)	0.26	0.098
		(O2)	0.18	0.067
		(O3)	0.22	0.082
		(O4)	0.19	0.071
		(O5)	0.15	0.056
Threats	0.420	(T1)	0.22	0.092
		(T2)	0.15	0.063
		(T3)	0.18	0.075
		(T4)	0.31	0.0130
		(T5)	0.14	0.058

Step 7: At this step, the priorities of the offered strategies were calculated considering all the sub-factors in the SWOT matrix. We obtained 20 tables, and the results listed in the tables were entered into a matrix calledW_4.

Step 8: The final priorities of the strategies were determined in the following way by considering all of the SWOT matrix relationships.

$$W_{alternatives} = \begin{bmatrix} SO \\ WO \\ ST \\ WT \end{bmatrix}$$

$$= W_4 \times W_{sub-factors(global)} = \begin{bmatrix} 0.413 \\ 0.284 \\ 0.352 \\ 0.105 \end{bmatrix}$$

The results derived from the analysis of the fuzzy network indicate that the SO strategy with the priority weight of 0.413 is the top priority and that the ST, WO, and WT strategies are the second to fourth priorities, respectively.

XI. RESULTS AND DISCUSSION

In this research, we employed the SWOT model to solve the problems of tourism in Shiraz, and using this same tool, offered strategies to serve this purpose. Since the SWOT matrix cannot prioritize priorities by itself, we selected the Fuzzy ANP hierarchical analysis method as the most appropriate tool for prioritization after the completion of our studies. The reason for selecting the Fuzzy ANP method was that it considers the dependencies among SWOT factors in prioritizing strategies, while these dependencies are not considered in other studies that use tools such as the AHP.

After making the calculations by using the

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 75-86

introduced tools, we offer the SO strategy with the priority weight of 0.413 as the best one. In this strategy, the various touristic attractions of Shiraz are used to encourage private sector and government investments for the expansion of tourism and for attracting tourists from nearby touristic regions. The ST strategy with the priority weight of 0.352 (appropriate advertisements for introducing the touristic attractions with the purpose of sustainabletourism development that leads to suitable sustainable utilization of the environment to prevent destruction of the historical textures) is the second priority. The third priority is the WO strategy with the priority weight of 0.284 (Improvements in guiding tourists, in providing information, and in residential and catering services through private sector and government investments). Finally, the WT strategy (providing information for correct utilization of touristic regions and assessing the capacity of these regions, and management operations to organize tourism) with the priority weight of 0.105 is the fourth priority.

REFERENCES

[1] Sabahi, Amir and Mohammad SadeghAfrasiabi Rad, 2011, Evaluation of the Threats and Opportunities of the Strategic Factors of the Expansion of Tourism Industry in Shiraz Using the SWOT technique, the first international congress on tourism management and sustainable development, Marvdasht, Islamic Azad University

[2]AhadnezhadRooshti, Mohsen, AbdollahKhodavandi, ShahrokhZadvali, and OfoghFallah, 2012, Study of Tourism Expansion Strategies in Iran Using the SWOT Model, the Case Study of Shiraz, the first international congress on tourism and nature tourism in Iran, Hamadan, Islamic Azad University, HamandishanMoheetzistFarda Publications

[3] Saffari, Mohammad Moein, 2011, Study of the Social-Economic Effects of Literary Tourism on the Host Community, the Case Study of the Tomb of Hafez and the Tomb of Saadi in Shiraz, the first national congress of tourism and nature tourism of Iran, Hamadan, the Islamic Azad University, HamandishanMoheetZistFarda Publication

[4] Gholami, Mohammad and MoosaRastegar, 2011, Study of the Capabilities of Shiraz in attracting Tourists, the first international congress on tourism management and sustainable development, Marvdasht, Islamic Azad University

[5] EisaEbrahimzadeh, AbdollahAghasizadeh, 2009, Analysis of Effective Factors in Tourism Expansion in the Coastal Region of Chahbahar Using the SWOT strategic Model, Urban and Regional Studies and Research Related to summer.

[6] SaeidSehhat and EisaParizadi, 2009, Use of the Technique of Network analysis in Analyzing Weaknesses, Strengths, Opportunities, and Threats (the Case Study of Iran Insurance Company)

[7] Markovska, N., Taseska, V., and Pop-Jordanov, J., Swot Analyses of the National Energy Sector for Sustainable Energy Development, Energy, Volume 34, Issue 6, 2009, pp. 752-756

[8] Gao, C-Y, and Peng, D-H, Consolidating Swot Analysis with Nonhomegeneous Uncertain Preference Information, Knowledge-Based Systems, Volume 24, Issue 6, 2011, pp. 796-808

[9] Lee, W., & Kim, S. H. (2000). Using analytic network process and goal programming for interdependent information system project selection. Computers and Operations Research, 27, 367–382.

[10] Lee, W., & Kim, S. H. (2000). Using analytic network process and goal programming for interdependent information system project selection. Computers and Operations Research, 27, 367–382.

Hamidreza Feilihas the BEng, MEng and PhD degrees in Industrial Engineering. He received the BEng degree from Sharif University of Technology, Tehran, Iran, in 1989, MEng degree from Iran University of Science and Technology, Tehran, Iran, in 1992, the PhD degree from Tarbiat Modares University, Tehran, Iran, in 2000. He is a Faculty Member of University. He teaches currently in many of universities in Tehran such as: Tehran University, Khaje Nasir Toosi University of Technology, Iran University of Science and Technology and Islamic Azad University.

In the past two decades, he has been conducting research in multiple criteria decision analysis, multiple-objective optimization, intelligent decision support systems, hybrid quantitative and qualitative decision modeling using techniques from operational research, artificial intelligence, and systems engineering and dynamic system modeling, simulation, and control for engineering and management systems, production planning and scheduling, quality modeling and evaluation, supply chain modeling and supplier assessment, the integrated evaluation of products, systems, quality function deployment (QFD), and failure mode and effects analysis (FMEA),etc.

He has published a significant number academic papers in a wide variety of peer reviewed journals and conferences.

Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 87-90

The Impact of Earnings Transparency on Cost of Capital

Sina Kheradyar [1*] and Javad Rahmani [2]

[1&2] Department of Accounting, Rasht Branch, Islamic Azad University, Rasht, Iran

Abstract— The existence of earnings transparency has significant financial consequences in recent years. Earnings transparency decrease information asymmetry which is positively associated with cost of capital. Therefore, this paper investigates whether the earnings transparency can decrease the cost of capital. We use adjusted R^2s from annual panel regressions based on the explanatory power of stock return in relation with earnings and change in earnings as earning transparency measure. This study applies the ordinary least squares (OLS) method to estimate cost of capital model for 80 firms listed on Tehran stock exchange market from 2009 to 2013. The result shows the earnings transparency has significant impact on the cost of capital, even when the earning transparency measure is not considerable. Moreover, the earning transparency decrease the cost of capital, which there is significant negative relation between expected cost of capital and earning transparency measure. Hence, earnings transparency protects the interests of shareholders, which provide a lower cost of capital.

.

***Keywords*—** Earning transparency, cost of capital, annual panel regression, explanatory power.

I. INTRODUCTION

Earnings transparency reflect changes in the economic value of the firm [1]. The previous studies provide evidence that firms with more earnings transparency show the lower cost of capital. However, the measures of earning transparency are more contentious. We apply adjusted R^2s from annual panel regressions based on the explanatory power of stock return in relation with earnings and change in earnings as earning transparency measure, because the relation measures the extent to which earnings captures changes in firm value [2].

Moreover, we estimate expected cost of capital by Fama-French three factor model [3] and momentum factor, so we provide six portfolios to calculate the risk variables of Fama-French model, which is related to size and book to market. Overall, there are three models that is estimated by the ordinary least squares (OLS) method for 80 firms listed on Tehran stock exchange market from 2009 to 2013. This study find the earnings transparency has significant impact on the cost of capital, even when the value of earning transparency is not considerable. Moreover, the earning transparency decrease the cost of capital, which there is significant negative relation between expected cost of capital and earning transparency measure. Hence, earnings transparency protects the interests of shareholders, which provide a lower cost of capital.

II. EARNING TRANSPARENCY AND COST OF CAPITAL

Reference [4] shows the relationship between earnings quality with specific cost of debt and cost of common equity specifically examined. In this study, the relationship between earnings quality indicators in eight specific cost of debt and cost of common equity in particular has been studied. The results obtained suggest that firms with low earnings quality compared to firms with high earnings quality, cost of debt and cost of common stocks higher. Reference [5] shows earnings quality and earnings response coefficients, while increasing sales and profit stability were investigated. Their results showed that the company with profit growth along with high sales, earnings quality and earnings response coefficients than the company with profit growth coupled with declining costs, have.

The relationship between accruals (the difference between profit and cash flow) with future stock returns were examined and showed that in periods of high accruals companies with Gray reported the following financial information and stock

* Assistant Professor of Accounting (Corresponding author; phone: 0131-4224090; e-mail: kheradyar@iaurasht.ac.ir)

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 87-90

returns. One interpretation of these results is that the company low earnings quality during the post Gary profit fell be the company is following a low interest suffer and stock prices are adjusted accordingly [6]. Also, trading activity can change the cross section to explain your expected return. Evidence from this study indicates that there is a relationship between lack of money - liquidity and size of the company. Also, the effect of corporate stocks with high liquidity, trading volume is significant [7]. Expected return on equity is influenced by information risk and information risk of private information, public information and transparency depends on, so that the transparency of information provided Less, increasing the risk premium due to the uncertainty, the higher the expected return on investment takes. If your expected rate of return on the shareholders of Holly financial companies, particularly rely on reported earnings. Therefore, transparency in reporting earnings estimates the expected return of shareholders [4].

Reference [8] investigates the relationship between common stock returns in the Australian market and agents, such as beta risk and firm size and price offer to buy or sell, the flow rate and the ratio of non - liquidity, and the results showed that the different criteria lack of liquidity, provided by excess stock returns better than justifies. Moreover, the effect of accounting transparency on the expected price provide a theoretical and empirical evidence that shows features that can lead to greater transparency of institutional investors participated in professional accounting and expectations of investors-it can irritate. The results show that analysts' expectations of earnings are affected by transparency [9]. The relationship between the expected return and financial ratios to show the transparency of financial information shows that after controlling for common factors such as the risk premiums, the expected return is positively related to information transparency in ratios [10].

However, the result that investigates the effect of institutional ownership on the transparency shows that institutional ownership negatively affects the transparency of corporate reporting. Reference [11] shows the company with International Financial Reporting Transparency Reporting Company has a significant positive relationship. The results reveal the transparency of financial information, the maximum value of the company and the creation of moral hazard between managers and owners to prevent. The impact on the transparency of financial reporting and the value of the function has examined the Taiwan Stock Exchange Corporation. The main aim of clarifying the new rules and regulations and to provide empirical evidence to show the relationship between transparency and financial disclosure practices of companies in Taiwan [12]. Moreover, Reference [13] shows that transparency disclosures of financial statements, the mechanism that maximize firm value and the creation of moral hazard between managers and owners should prevent.

In a main research, reference [1] explores the relationship between cost of capital and earnings transparency. The results show that there is a significant negative correlation between cost of capital and earning transparency, which the transparency measure is selected by the adjusted R^2s of a regression between return and change in earnings.

Some evidence from Tehran stock exchange market investigates the relationship between earning transparency and cost of capital. They find that full disclosure transparency of financial reporting with certain conditions that cause increased investor confidence. Transparency has a positive effect on corporate performance, and can protect the interests of shareholders. Increased confidence of shareholders and reduce the risk premium, expected return decreases and increases firm value [14].

Reference [15] investigates the relation between earnings quality and market reaction to changes dividend is paid. The results indicate that the earnings quality of the firms is not a factor of the reaction to dividend changes on Tehran stock exchange market. To evaluate the qualitative characteristics of the profit and cost of equity show that there is four factor based on accounting data includes accruals quality, persistence, predictability and transparency, which are influence on cost of equity [16].

In addition, some previous studies examine the effect of corporate governance on earnings quality in Tehran stock exchange market. They find that there is a significant positive relationship between the percentage of ownership institutional investors, major shareholders of Block number, the percentage of managers responsible for the composition of the board of directors, the lack of CEO as chairman or deputy chairman and auditor size and quality of the company's earnings [17].To test the relationship between earnings quality and stock returns suggest that the information content of earnings components is greater than the information content of the accrual component. Furthermore, the firms with high earnings quality have high efficiency of the dividends [18].

Low transparency conditions provide asymmetric financial information for investment decision making and they will deal with ambiguous situations. This situation increases the risk premium information for estimating the expected return. Thus, the firms with low earning transparency can decrease information risk for Shareholders. Full disclosure can be combined with the transparency of financial reporting certain conditions that cause to increase the confidence of investor. Therefore, the existence of earnings transparency has significant financial consequences, because the earnings transparency decrease information asymmetry, which is positively associated with cost of capital. Thus, the earnings transparency can decrease the expected cost of capital.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 87-90

III. Research Method

A. The applied Models

This research applies the ordinary least squares (OLS) method to estimate three regression models, which include a main model to test the relationship between earnings transparency and expected cost of capital, as in (1), and two subsequent models to calculate expected cost of capital, as in (2), and earning transparency, as in (3). The main model, which investigates the relationship between earnings transparency and expected cost of capital, has the following form:

$$ECC_{it} = \gamma_0 + \gamma_1 TRANS_{it} + \gamma_2 DBTA_{it} + \gamma_3 MVE_{it} + \gamma_4 BM_{it} \quad \textbf{(1)}$$

Which ECC is expected cost of capital, TRANS is earnings transparency, DBTA is debt ratio, MVE is market value of equity, and BM is book to market ratio. The second model to calculate expected cost of capital is as following:

$$ECC_{it} = \beta_0 + \beta_1 (Rm - Rf) + \beta_2 SMB_{it} + \beta_3 HML_{it} + \beta_4 MOM_{it} \quad \textbf{(2)}$$

Which ECC is expected cost of capital, R_m-R_f is excess market return, SMB is the excess return of small size mines big size firms, HML is the excess return of high book to market mines low book to market firms. MOM is the momentum factor. The third model to calculate earning transparency by the adjusted R^2s of the following regression:

$$RET_{IT} = \alpha_0 + \alpha_1 E_{it} / P_{i(t-1)} + \alpha_2 \Delta E_{it} / P_{i(t-1)} + \varepsilon_{it} \quad \textbf{(3)}$$

Which RET is annual returns on earnings, E/P is earnings to lagged price, ΔE/P is change in earning to lagged price.

B. Sampling and Summary Statistics

This study comprises a sample of 80 firms after filtering process on 466 firms which are listed on Tehran stock exchange market for a period of 5 years, from 2009 to 2013, which include 400 observations. The dependent variable of the first model, as in (1), is expected cost of capital (ECC) that is calculated by the Fama-French three factor model and momentum factor, as in (2). The independent variables include earning transparency (TRANS) that is calculated by the adjusted R^2s of the third model, as in (3), debt ratio (DBTA) that is calculated by the ratio of long-term debt to total assets, market value of equity (MVE), and book to market ratio (BM). Table I shows the summary statistics of the variables, which the expected cost of capital (ECC) is estimated as in (2) and the earnings transparency (TRANS) is estimated as in (3).

Table I. Summary Statistics

Variable	Mean	Std.	Max	Min
TRANS	0.25	0.34	0.95	0.13
ECC	5.86	8.22	59.18	9.76
DBTA	0.60	0.31	0.97	0.09
MVE	19.10	2.07	24.66	14.50
BM	1.42	1.81	10.50	0.00
R_m-R_f	2.98	12.39	78.31	-41.22
SMB	0.70	0.79	5.56	-1.04
HML	0.30	0.45	3.53	-0.48
MOM	19.10	2.07	24.66	14.50
RET	2.14	6.09	43.40	-37.62

C. Diagnostic Tests

This study applies the coefficient, residual, and stability diagnostic tests. Coefficient diagnostics provide information and evaluate restrictions on the estimated coefficients, including Wald test, omitted and redundant variables tests. Residual diagnostic tests include normality, serial correlation, and heteroskedasticity in the residuals from the estimated equation. We explain a main stability test, which includes the Ramsey RESET test. This study uses the three unit root tests, which include the Augmented Dickey-Fuller (ADF) test, Phillips-Perron (PP) test, and the Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) test for identifying non-stationarity variables.

IV. Results and Discussion

Table II shows the results of testing the relationship between the expected cost of capital and earnings transparency, as in (1), that states there is significant coefficient of earning transparency with 0.00 P-value, which represents 99% confidence level. Therefore, there is significant relationship between the expected cost of capital and earnings transparency. Furthermore, consistent with previous study [1], the coefficient of earning transparency (TRANS) is negative, -0.20, which shows the earning transparency can decrease the cost of capital. The results indicate that P-value of the main model is 0.03, which represents 95% confidence level with 4.6 per cent of the adjusted R^2.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 87-90

Table II. The Results of Main Model as in (1)

Variables	Coefficients	Std.Error	P-value	D-W	Adj.R^2 (%)
TRANS	-0.20	0.07	0.00		
DBTA	0.02	0.12	0.09		
MVE	1.50	0.61	0.00	1.87	4.6
BM	-0.01	0.05	0.91		
Constant	-6.03	1.83	0.00		

P-value of the model is 0.03, which represents 95% confidence level.

V. CONCLUSION

During the recent decade, the existence of earnings transparency has significant financial consequences, because the earnings transparency decrease information asymmetry, which is positively associated with cost of capital. Thus, the earnings transparency can decrease the expected cost of capital. This study examines whether the earnings transparency can decrease the cost of capital. Consistent with the theoretical framework, this study finds that there is significant relationship between the expected cost of capital and earnings transparency. The earnings transparency has significant impact on the cost of capital, even when the value of earning transparency is not considerable. Moreover, the earning transparency decrease the cost of capital, which there is significant negative relation between expected cost of capital and earning transparency. Moreover, these findings indicate that earnings transparency captures dimensions of cost of capital, which the factors do not explain the expected cost of capital. Hence, earnings transparency protects the interests of shareholders, which provide a lower cost of capital. In addition, the earnings transparency with low cost of capital leads to economic growth and more investment opportunities.

REFERENCES

[1] dBarth, M. E. Konchitchki, Y , And W.R. Landsman. (2013), "Cost Of Capital And Earnings Transparency." Working Paper, Stanford University and the University Of North Carolina at Chapel Hill.

[2] Barth, M.E., Beaver, W.H., Hand, J.M., Landsman, W.R., 2005. Accruals, accounting-based valuation models, and the prediction of equity values. Journal of Accounting, Auditing, and Finance 20, 311–345.

[3] Fama, E.F., and K.R. French. (1993). "Common Risk Factors in the Returns of Stocks and Bonds." Journal of Financial Economics 33, Pp: 3-56.

[4] Francis, J., LaFond, R., Olsson, P., Schipper, K., 2005. The market pricing of accruals quality. Journal of Accounting and Economics 39, 295–327.

[5] Gow, I.D., Ormazabal, G., Taylor, D.J., 2010. Correcting for cross-sectional and time-series dependence in accounting research. Accounting Review 85, 483–512.

[6] Chan,K. Chan,L. Jegadeesh , N. Lakinishok,J.(2005) ." earnings quality and stock returns", working paper university of Illinois at urbana – champaign-department of finance ,p.54 .

[7] Petkova, R., 2006. Do the Fama-French proxy for innovations in predictive variables? The Journal of Finance 61, 581–612.

[8] McInnis, J., 2010. Earnings smoothness, average returns, and implied equity cost of capital. The Accounting Review 85, 315–341.

[9] Elliott, W. Brooke, Krische, D. Susan. Peecher, E. Mark, (2010)," Expected Mispricing: The Joint Influence Of Accounting Transparency And Investor Base" . Journal of Accounting Research, 48: 343-381

[10] Kheradyar, S., Ibrahim, I., & Mat Nor, F. 2011. Stock Return Predictability with Financial Ratios. International Journal of Trade, Economics and Finance 2(5): 391-396.

[11] Bushman, Robert, Piotroski, Joseph and Smith Abble.(٢٠٠١). "What determines corporate transparency?" University of North Carolina, University of Chicago and Harvard Business School.

[12] Chiu, Chi, Li.(2009)." Do Transparency And Disclosure Predict Firm Performance?

[13] Cheung, Yan.,Leung , Ping Jiang. b,Weiqiang Tan (2010) "A transparency Disclosure Index measuring disclosures:Chinese listed companies" Journal of Accounting Public Policy, No 29, 259–280.

[14] Urban, A., Kurdistani, G., (1383) investigate the full extent of the relationship between earnings quality and market reaction to dividend changes; studies ACCOUNTING AND AUDITING REVIEW, No. 37.

[15] Bülow, G., (1385) Cost of equity and earnings attributes, accounting PhD Thesis, School of Management, Allameh Tabatabai University

[16] Ismail-Zadeh Mqry A., Jalili M, Zndbas Abadi, A. (1389), The effect of corporate governance on earnings quality in Tehran Stock Exchange, Journal of Management Accounting, Third Year, No. VII

[17] Hejazi, R. and Jalali, F., (1386), Factors affecting the cost of capital of listed companies in Tehran Stock Exchange, Journal of Economic Sciences and the Humanities and Social Sciences, Issue 24, pp. 30-13 .

[18] Johnny R. John, (1390) examine the relationship between income and its components with emphasis on quality dividend yielding stocks in companies listed in Tehran Stock Exchange, Journal of Accounting Research, Spring, pp. 84-113 Third Year.

Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 40-48

Analysis of gaps in customer knowledge management (CKM), in the Bank (Maskan Banks of Chahar mahal va bakhtiari province)

Ali Jaleel tahmasebi [1]. Fatemeh Abooee [2], Meysam Shafiee Roodposhti [3], Mohsen Hejazi[4]

1 - Graduate of Management, University of Science and Arts, Karf_1400@yahoo.com
2 - Graduate of Management, University of Science and Arts. Abooee.2000 @ gmail.com
3 - Graduate of International Marketing Management, Tarbiat Modarres University, 2004M.shafiee@gmail.com
4-Student in International Marketing Management, Tehran University, inbox.hejazi@gmail.com

Abstract_ One of the most important indicators of the economy of each country, is the banking industry. Due to the nature of banking services, consumer and customer knowledge management, is an effective tool which can be useful in this regard. The purpose of this study is to provide a model to measure customer knowledge management in the banking industry. Indicators in this industry are derived using literature and expert opinion. The studies, knowledge management, customer is selected based on the knowledge obtained from the client, on the client, as well as for a customer. Indices obtained for each of the dimensions of knowledge management client (the client, the client, on the client), has been approved by experts. The research method used in this study is a case study approach, the Housing Bank Chahar mahal va bakhtiari Province. The results of the gap analysis showed that the level of knowledge management of customer expectations, the higher is the level of perception.

Keywords: knowledge management, customers, banks, gap analysis, expectations, perceptions

I. INTRODUCTION

In today's competitive market, which is its main characteristic, is an uncertainty, firms have the ability to compete, to create new knowledge in your organization, to distribute it, and convert it into goods and services. Thus, knowledge of the organization's competitive advantages is created, and the organization allows, solve problems and seize new opportunities. Therefore, students will not only be a source of competitive advantage, but in fact it is the only source. The resources of an organization are operated, the control is to promote and enhance the value and business dynamics. The most important question in today's competitive world, it is, how it can be identified, knowledge in any organization, and utilize it to the best of (Turban, Mklin, 2002). Today, companies and organizations working in the customer-oriented economy, in which the customer is the real ruler of the market, and this approach has resulted in overcapacity. So companies need to learn how to move from a focus on product, the focus on customers' property. They must consider clients as a financial asset, like any other asset, needs to manage, and deliver it to the highest rate of return (pin, 2004). Management, customer relationship defines as an organization-wide strategy to optimize profitability, revenue and customer satisfaction, organized according to different categories of customer satisfaction and promoting behavior, and communication processes to customer's suppliers, and states that invest in customer relationship management, makes understood better, more accessible, and effective interaction with customers through various channels (Vakilifard et al, 2008). Today is the era of knowledge-based organization. Knowledge management, in order to obtain new sources of knowledge, has seriously considered, new theories, such as community-oriented knowledge management, the goal is to achieve customer knowledge sources (Ritna, TNT J., 2011) .

This research has been conducted, with the aim of customer knowledge management, mortgage banks Chahar mahal va

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 40-48

Chahar mahal va bakhtiari province, the modeling of gap analysis, and comparison of the current status of customers and status of pending cases. In the first part, the theoretical foundations of the proposed model, are investigated for the analysis of customer knowledge management in banks. Analysis of the data obtained is accounted for, the next part of the study.

II. Theoretical Foundations

A. Knowledge Management

Creation of knowledge management systems, are considered to be one of the most important approaches to improve the level of knowledge in an organization (Turban, Mklin, 2002). Structuring of knowledge, leads to the improvement of effective problem solving, dynamic learning, strategic planning, and decision making effectiveness. KM focuses on knowledge identification, description and structuring and enhancing its value through reuse. Knowledge management refers to the processes, so their knowledge is stored and used, and the purpose of it is, the exploitation of intellectual property, in order to increase productivity, create new value, and enhance the ability of competitiveness. With the trend of globalization, and the impact of the Internet, many organizations have been dispersed, geographically, and are structuring the form of virtual teams, increasing the number of documents and on-line documentation, which are available at Web-based environment, there are many problems in the field of knowledge management, primarily to the show, in areas such as information search, information extraction, maintenance, and availability of information, (Hummer, Staten, 1994). Knowledge management, forms, patterns of interaction between technologies, techniques and people. For example, information technology, it works well, the collection, storage and dissemination of information, but is helpless in its interpretation (Bhatt 1997). Achieving technical solution is possible, but for knowledge management, the organization created the environment, participation, collaboration and knowledge sharing. Human behavior, one of the current problems of knowledge management is, therefore, a knowledge management projects, the emphasis is on changing the traditional processes, and enhance productivity and technological structures (Glaser, 1998). Therefore, the gradual assimilation of knowledge management is an important priority.

Today, creating and maintaining customer relationship, a new concept that will be discussed, not just to sell products and services, but also to achieve their knowledge in terms of knowledge management systems (Wiener, 2001) . Despite that, a lot of definitions have been proposed for the management of knowledge, but there is no consensus about what is knowledge management. Among them, (Astmpz, 1999) defines knowledge management, providing the required knowledge, time and space required, and the person in need. Organization for Economic Cooperation and Development (2003), Knowledge management defines a set of organizational activities, the creation, acquisition, dissemination of knowledge, and promoting knowledge sharing within the organization and its surroundings (Hasan et al. , 1388). Davenport and Prosak, the scholars of knowledge, defines the combination of flexible and reliable transfer of experiences, values, significant information and expert insights that provides a framework for the evaluation and integration of information and new experiences. Askirm, has introduced seven domain, as the domain knowledge management: customer knowledge, relationships with other stakeholders, working environment, organizational memory-related business processes, products and services, and human resources (Abtahi and blessings, 1385) . Knowledge management facilitates the integration of knowledge between different groups or sections. Knowledge management helps to facilitate the flow of knowledge within the organization, and can lead to faster and more effective integration of customer-related knowledge (Rytna, TNT J., 2011). Knowledge management also helps transparency in the process of integration with other groups, such as employees (Chang et al, 2010). When, customer relationship management, is implemented, the application of knowledge management can to spread the knowledge about the customer (Ritna, TNT J., 2011).

B. Customer Relationship Management

Traditional marketing strategies focused on the concept 4p, ie price, product, distribution and promotion, in order to increase market share, and the primary focus was to increase the volume of transactions between buyer and seller. In this context, the volume of sales was standard practice marketing strategies and tactics. But CRM, is a business strategy that goes beyond the increased volume of transactions, and its goal is to increase profitability, revenue and customer satisfaction. To accomplish these goals, organizations can use the wide range of tools, procedures, methods and communication with customers (Elahi, and Heidari, 2005).

In the marketing literature, is provided adjacent the definition of CRM. Some have considered it identical with relationship marketing. For example, several points can be defined as: attracting, maintaining and enhancing customer relationships (Berry, 1983). The overall process of building and maintaining profitable relationships with customers and provide value by delivering superior customer and his

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 40-48

satisfaction (Armstrong, Kotler, 2004). Customer Relationship Management, a set of methods that provide a strong point of view, integrated, customers, across the whole business, to ensure that every customer receives the highest level of service (Karakastas, Kardaras, 2005).

CRM, are part of an organization's strategy for identifying and keeping satisfied customers, and convert it into a repeat customer. It also helps the company in line with customer relationship management, the company, in order to maximize the value of every customer, (Turban, Maklin, 2002).

CRM, is a set of methodologies, processes, software and systems, which helps institutions and enterprises, organized effectively, and customer relationship management (Barnett, 2001). Customer relationship management, namely, creating and maintaining personal relationships with profitable customers organize through the proper use of information and communication technologies (Hipenro et al, 2001). Customer relationship management as a process consists of monitoring the client (such as proper data collection), management and evaluation of the data, and ultimately make a real advantage, the extracted information, interact with them (Hemp and Asatman, 2002). Customer Relationship Management is a comprehensive business and marketing strategy that integrates technology, processes and business activities around the customer (Feinberg and Romano, 2004). (Vakilifard et al (2008) customer relationship management, know, philosophy and disciplined management, which focuses on clients in all areas of the organization. Therefore, this approach differs substantially, with Traditional marketing approaches., this topic describes the structure, culture and customer-oriented philosophy, the organization, and is known in its general sense. in this sense, includes four components: strategy, process, people and technology collection (ibid., 72).

C. Customer Knowledge Management

Today, the customer is known as the most important source of knowledge for companies. Researchers believe that customer service while using or consuming a product makes a lot of knowledge and experience. This knowledge has become one of the most important resources of the organization, and to obtain it has become a new competitive advantage in firms. On the other hand, Best Buy will do for that customer knowledge needs must be funded by corporations, (Brotherhood, Heydari, 1387). Therefore, knowledge management experts, customers are defined as interest the knowledge to / from / about customers in order to increase usability for customers, by the organization. Customer knowledge management, processes that involve related to customer identification and acquisition activity, and also exploits the knowledge of customers, (Akhavan, Heidari, 2008). Cooperation with the company, the type of stimulus is required. recently, customers are considered as partners in the process of knowledge creation. Creating shared knowledge of clients, along with the organization, in order to create value for both parties, with knowledge sharing with customers, they can make better products as well. Here, these two institutions are working together and have a common goal in mind, and the client will be enabled and key partners in the process of knowledge creation (2006, Paquette). Customer knowledge has been defined as a dynamic mix of experience, values, information and expert opinion, that during the process of transactions between customers and corporate transactions required to be made and still be seen. This knowledge can be built in a two-way flow of knowledge that creates value for both parties, and is causing a lot of improvements in customer value (2006, Paquette).

Merging the two concepts of CRM and KM, in the model, CRM, can reduce the benefits of using each, and enhance the implementation of each of the risk of failure. CRM is an area of management, it is handled, procedures KM, customer support knowledge exchange, the organization and its customers, and where, customer knowledge for CRM, is used for Process improvement of CRM, including customer service, and beneficial relationships. Customer knowledge management, which includes processes, is related to the identification and acquisition of customer information, as well as the creation and utilization of customer knowledge. These information are located beyond the outer limits of the company, and the knowledge that can be extracted from them, makes creating value for the organization and its customers (2006, Paquette). Customer relationship management, knowledge management, management of both approaches, with different views, but the knowledge about the customer, their integration can create, potential synergy (Ruolin, 2005).

III. Conceptual Model of Research

When the discussion is related to customer knowledge, will examine each type of knowledge that, in relation to the customer. The purpose of this study is that it analyzed the customer's knowledge, in all dimensions. Customer knowledge, which is knowledge, customers are concerned with the organization of, or includes, the knowledge that, in conjunction with other customers, and even in relation to the competitors. In this study, the case is investigated, three types of knowledge, the relationship with customers:

A. Knowledge for the Customer

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 40-48

Customer knowledge is the knowledge for customers to know better. The fact is that, those of knowledge and information that customers need it. (2008, Shami Zanjani). Cases, it can be as a knowledge bank for customers, including educating clients and informing customers of banking services how use of banking services, advising customers, and future plans and objectives Bank.

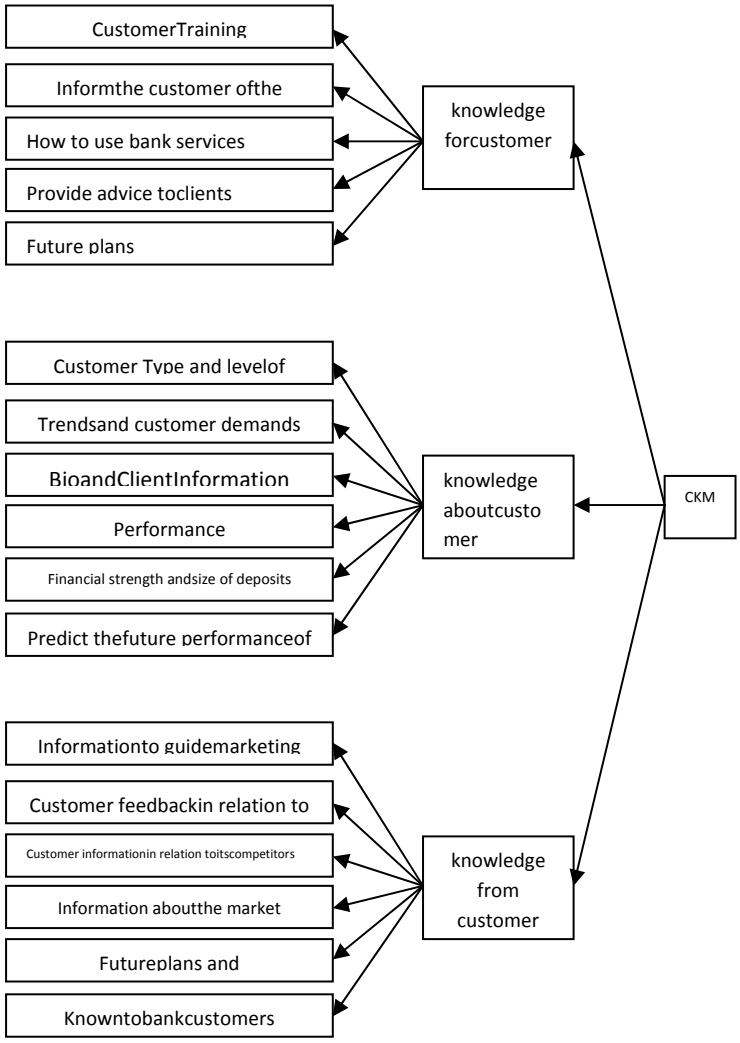
B. Knowledge about the customer

It is a Kind of knowledge that is accepted for recognition and better understanding of target customers. Usually organizations do not get easily knowledge about your customers, and it will get counseling (2008, Shami Zanjani). Knowledge about the customer, including the type and level of customer orders, customer orientation, biography, performance and customer records, financial ability and predict the future performance of the client.

C. Knowledge of the customer

It is a Kind of knowledge that is transmitted from the client, the agency, and the agency could, it would analyze (2008, Shami Zanjani). Types of knowledge of the customer, includes information, customer feedback, in regard to banking services, and customer information in relation to competitors and market orientation, customer offers and ways to be recognized for the bank by bank customers.

This model is based on the data obtained, and the opinions of experts and experts from the banking industry, as shown in the following figure



ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 40-48

IV. Methodology

In this study, we used the method - analytical. In this case, the data collected was analyzed using descriptive methods, and then extend the results of the sample population is used, the method of analysis. To collect the necessary data, is used, the library and field research methods. Firstly, to examine the records of the gap analysis, is used, the library method. The data collected from the first stage of the conceptual model are obtained, and a questionnaire was designed, based on the model, and were available in 89 patients by management and mortgage banking. It is explained that, at this stage, to check the validity of the questionnaire was used, the views of experts (experts in banking) as well as the quality of debate experts (faculty members). To assess the reliability of the questionnaire was used, the coefficient alpha alphabet. Since the coefficient alpha was calculated alphabet in 3 different aspects to the questionnaire, over 70 percent, so the questionnaire has acceptable reliability. Assess the reliability of the results of the questionnaires are shown in Table 1.

Table 1: Coefficient alpha alphabet, for a variety of customer knowledge

Alpha alphabet	Dimension
0.86	Types of knowledge, for customer
0.88	Types of knowledge about customer
0.84	Types of knowledge, from customer

5 - Findings

In this section, the results of statistical analysis software SPSS 20, are separated in terms of customer knowledge management dimensions.

A. - Types of knowledge for customer

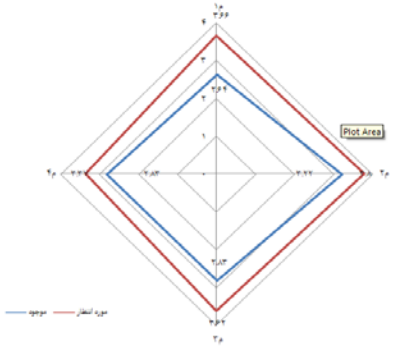
The first component of knowledge management, customer is the customer knowledge types. Table 2 below, the components of descriptive statistics, and questions about its current status and expected position in the two (should be from the perspective of the respondents).

Table 2. Descriptive statistics, concepts, from, for customer, and its components, the resolution of the current status and expected.

Expected			current			Knowledge of the customer	
Standard error of the mean	Standard deviation	Average	Standard error of the mean	Standard deviation	Average		
0.106	0.999	3.66	0.130	1.227	2.64	Customer Training	1
0.109	1.024	3.62	0.094	0.889	3.22	Inform the customer of the bank services	2
0.107	1.006	3.62	0.097	0.911	3.01	Provide advice to clients	3
0.117	1.101	3.37	0.101	0.956	2.83	Future plans and objectives of the Bank	4
0.08661	0.8171	3.6124	0.07017	0.6616	2.9270	Types of customers	5

From Table 2, is characterized by the highest average in the state, is linked to customer information, banking services, and the lowest average, is linked to customer education. The situation is expected; the highest average also is linked to informing the customer of the bank services, and is the lowest, future plans and objectives of the bank. The various components of the status quo, with a 2.93 average, are less than expected at 3.61averages. For questions 1 through 4, which are the components of the well are? Average current situation, to questions of component types, the customer, are shown in the following figure, the radar chart.

Figure 1. Radar variety of components to the client, in both the current status and expected



As is clear from Figure 1, the current status of all components is lower than expected. The biggest difference is linked components, customer education. To determine the significance of different components, as well as various aspects of knowledge, the client was using the paired t-test, whose results are given in Table 3.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 40-48

Table 3. Results of the test t, to examine the differences between the existing situation and expected component from for customer types

Significance level	Degrees of freedom	T-statistics	Sure difference	95% CI	Standard error of the mean	Standard deviation	Average Difference	Knowledge for the customer
			High	low				
0.000	88	-6.672	-0.718	-1.327	0.153	1.446	-1.022	Customer Training
0.000	88	-4.558	0.323	-0.823	0.126	1.186	-0.573	Inform the customer of the bank services
0.000	88	-4.080	0.311	-0.902	0.149	1.403	-0.607	Provide advice to clients
0.001	88	-3.576	-0.240	-0.839	0.151	1.423	0.539	Future plans and objectives of the Bank
0.000	88	-5.821	-0.45142	-0.91937	0.11774	1.11072	-0.68539	Types of customers

It is clear from Table 3, in all aspects, as well as types of knowledge, for the client, the status quo, as expected, there are significant differences. The highest mean difference is linked to the first component, and the minimum is, the second component.

Types of knowledge about the customer

The second aspect consists of seven components, to explore a variety of knowledge about the customer pays the descriptive statistics of these aspects and components, is shown in Table 4.

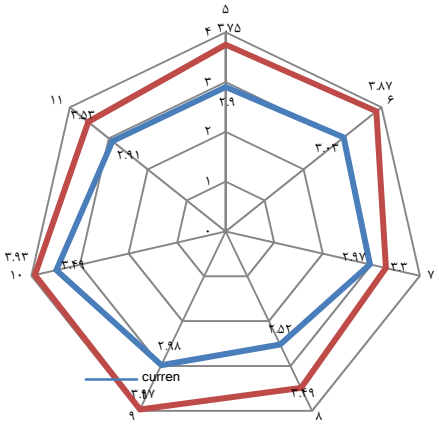
Table 4. Descriptive statistics of knowledge about the customer, and its components, the resolution of the current status and expected

Table 4. Descriptive statistics of knowledge about the customer, and its components, the resolution of the current status and expected

Expected			current				
Standard error of the mean	Stand ard deviation	Aver age	Standard error of the mean	Stand ard deviation	Average		Componen
0.118	1.111	3.75	0.107	1.012	2.90	Type and level of customer	5
0.106	1.002	3.87	0.109	1.027	3.03	Trends and customer demands	6
0.119	1.122	3.30	0.102	0.959	2.79	Bio and Client Information	7
0.124	1.169	3.49	0.100	0.943	2.52	Performance and customer records	8
0.122	1.153	3.97	0.100	0.941	2.98	Financial ability of the customer	9
0.108	1.020	3.93	0.139	1.307	3.49	Total customer deposits	10
0.118	.1091	3.53	0.119	1.125	2.91	Predict the future performance of customer applications	11
0.08999	0.8489	3.6918	0.07431	0.7011	2.9454	Types of knowledge about	12

Table 4 shows the lowest mean, the situation is linked components, "and the level of customer", and the highest average of "Total customer deposits." In the ideal situation, is the highest average of the components' financial ability of the customer ", and the lowest component" Profile Picture and our customers. "Average of all aspects of the situation is lower than expected state, and the sum of all kinds of knowledge about the client, the status quo, with a 2.95 average, was lower than the state expected, with a 3.69 average.

Figure 2. Radar component types, knowledge about customer



It is clear from Figure 2, the mean current status of all components, is lower than the state expected. The maximum difference between the two conditions is linked to the components' financial ability of customer 'and the least difference, corresponding to the components' volume of customer deposits. "Determine the significance of differences between the status quo, as expected, was performed using, paired t test, and the results, are given in the table 5.

In Table 5. Results of the test t, to examine the differences between the existing situation and expected component types, knowledge about customer

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 40-48

Signific ance level	De grees of freedom	T-statistics	Sure difference high	95% CI low	Standard error of the mean	Standard deviation	Average Difference	
0.000	88	-5.811	-0.562	-1.146	0.147	1.386	-0.854	Type and level of customer
0.000	88	-5.669	-0.540	-1.123	0.147	1.384	-0.831	Trends and customer demands
0.003	88	-3.082	-0.184	-0.850	0.168	1.582	-0.517	Bio and Client Information
0.000	88	-6.087	-0.658	-1.297	0.161	1.515	-0.978	Performance and customer records
0.000	88	-7.029	0.709	-1.268	0.141	1.327	-0.989	Financial ability of the customer
0.013	88	-2.547	-0.096	-0.780	0.172	1.623	-0.438	Total customer deposits
0.000	88	-3.937	-0.306	-0.930	0.157	1.481	-0.618	Predict the future performance of customer applications
0.000	88	-5.778	-0.48968	-1.00309	0.12917	1.21862	-0.74369	Types of knowledge about customer

Table 5 shows the types of from about the customer, and all of its components, is capable of significant difference in the status quo, with the situation expected.

Types of knowledge, from customer

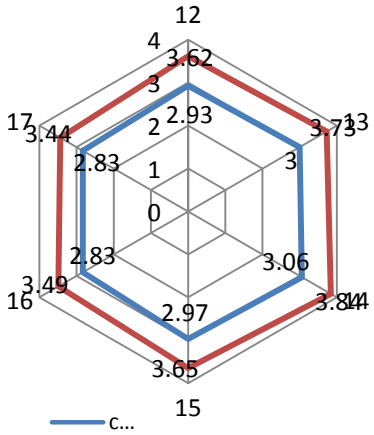
The final aspect of the model, knowledge management is linked to the aspect of "knowledge types from customer ', which has been evaluated, with 6 components. Descriptive statistics related to these aspects, and its components, in the current situation, as expected, are presented in the Table 6.

Table 6. Descriptive statistics of knowledge from client, and its components, the separation of the existing situation and expected

Expected			current				
Standard error of the mean	Standard deviation	Average	Standard error of the mean	Standard deviation	Average		
0.107	1.006	3.62	0.106	0.998	2.93	Information to guide marketing programs	
0.102	0.963	3.73	0.113	1.066	3.00	Customer feedback regarding bank services	
0.116	1.096	3.84	0.094	0.884	3.06	Customer information in relation to their competitors and Services	
0.119	1.119	3.65	0.107	1.005	2.97	Information about the market and its orientation	
0.136	1.280	3.49	0.115	1.090	2.83	Recommendations for bank customers	
0.132	1.243	3.44	0.123	1.160	2.83	Shnakhthshdn way to the bank by the	

Lowest Average component types, knowledge from client, the status quo, and in the condition expected of the components' proposals for bank customer "and" familiar paths bank customer. "Average of "knowledge types from customer" and all its components, in the status quo is lower than the state expected. Figure 3 outlines the situation in the form of a radar chart.

Figure 3 types from radar components, from customer



Carefully at Figure 3, it is clear that all aspects of the current situation have a lower mean, the situation is expected. The maximum difference between the existing situation and expected, is linked components, "customer information with respect to competitors and their services", and the minimum difference is related components, "ways to bank customers." The results determine the significance of these differences is given in the Table 7.

Table 7. Results of the test t, to examine the differences between the current situation and expected component types, knowledge from customer

Expected			current				
Standard error of the mean	Standard deviation	Average	Standard error of the mean	Standard deviation	Average		
0.107	1.006	3.62	0.106	0.998	2.93	Information to guide marketing programs	12
0.102	0.963	3.73	0.113	1.066	3.00	Customer feedback regarding bank services	13
0.116	1.096	3.84	0.094	0.884	3.06	Customer information in relation to their competitors and Services	14
0.119	1.119	3.65	0.107	1.005	2.97	Information about the market and its orientation	15
0.136	1.280	3.49	0.115	1.090	2.83	Recommendations for bank customers	16
0.132	1.243	3.44	0.123	1.160	2.83	Shnakhthshdn way to the bank by the customer	17
0.08992	0.8483	3.6292	0.07854	0.7409	2.9363	Types of knowledge from customers	

Table 7 indicates that, with 99% confidence we can say that, in the this respect, and all its components, there was no significant difference between the existing and desired dimensions.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 40-48

Customer Knowledge Management

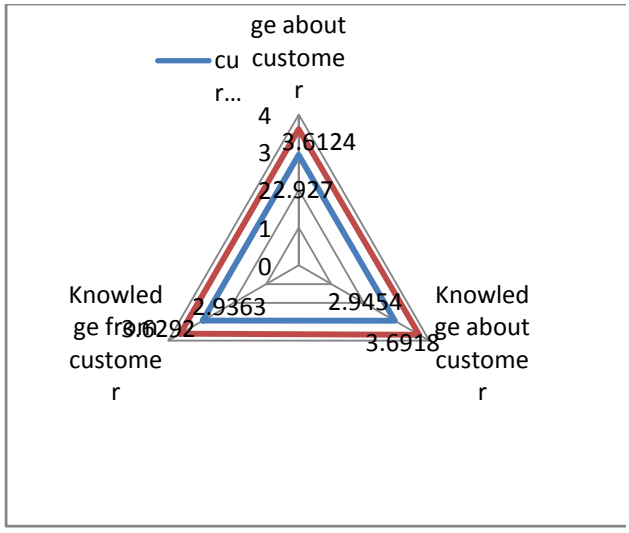
After review of customer knowledge management, and its components are compared, differences in customer knowledge management, in the current status and expected.

Table 8: Descriptive statistics customer knowledge management

	Expected				Current
Standard error of the mean	Standard deviation	Average	Standard error of the mean	Standard deviation	Average
0.08223	0.77577	3.651	0.06799	0.6414	2.9379

Table 8 shows, customer knowledge management, and all components of the three dimensions, with a mean of 94.2, in the situation are lower than the state expected, with a 65.3 average. At Tuesday dimensions of knowledge management, using radar, current and expected are compared, in Figure 4.

Figure 4: Radar dimension of customer knowledge management



The results showed significant differences between the dimensions of knowledge management, has been in the previous tables, as in the Figure 4, the radar is shown in Fig. The difference between the status of customer knowledge management, both existing and expected conditions in the table below.

Table 9. Test t, to examine the differences between the current situation and expected customer knowledge management

Significance level	Degrees of freedom	T statistics	Sure difference	95% CI	Standard error of the mean	Standard deviation	Average Difference	
			High	low				
0.000	88	-5.844	-0.47063	-0.95568	0.12204	1.1513	-0.71315	CKM

As expected, the dimensions of all components in every aspect of the difference between knowledge management client, the status quo, as expected, is significant.

V. Conclusion

Due to the nature of banking services, consumer and customer knowledge management, effective tool that can be useful in this regard. The purpose of this study is to provide a model to measure customer knowledge management in banking Stt. Index available is extracted using literature and expert opinion in this industry. The studies, customer knowledge management are selected, based on the knowledge obtained from the client about the client and the client. Gap analysis results showed that the level of knowledge management of customer expectations, the perception is higher. The highest average in the state is to inform the customer of the bank, and the lowest average customer training. The situation is expected, the highest average also is linked to customer information, the bank's services and the lowest average, future plans and objectives of the bank. Lowest Average, the situation is linked components, "the type and level of customer" and the highest average of "Total customer deposits." Ideally, the highest average, is linked components, "the customer's financial ability," and the lowest average of the components' Profile Picture and our customers. "Average of all aspects of the status quo is lower than the state expected, and in general, all kinds of knowledge about the client, the status quo, with a mean of 2.95, was lower than expected condition, with a 3.69 average. Lowest Average component types, knowledge of the customer's situation and the situation is expected is a component of "customer recommendations to the Bank" and "Bank of ways known by the client." Average of "knowledge types on the client" and all its components in the current situation, is lower than the state expected. After review of customer knowledge management, and its components were compared, differences in customer knowledge management, the current status and expected. Customer knowledge management as well as Tuesday dimensions and dimensions of all components, with a mean of 2.94, the situation is lower than the state expected to average 3.65

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 40-48

References

1. Hassanzadeh, Mohammad Fatemi, and Seyed Amir Omrani, seyed Ebrahim (2009). "Knowledge Management Science Info: links and interactions, Proceedings of the scientific conference". Tehran: Ketabdar.
2. Akhavan P. And Heidari (2008), "Customer Knowledge Management approach for achieving competitive advantage", Journal of Management Farda, Issue 24, pp. 18-40.
3. Vakili Fard, Hamid reza, Maran Jouri, M. and A. Khani, R. (2008). "Understanding customer relationship management". Journal of Accounting 75-69.
4. Abtahi, SH, Salavati, Adel (2006). "Knowledge management". Tehran: Peyvande no.
5. Elahi Shaban and Bahman. Heidari (2005), "Customer Relationship Management", Tehran: commercial publishing company affiliated with the Institute for Trade Studies and Research.
6. Turban.E,Mclean.E(2002),"Information technology for management" 3 rd ed, John wiley&Sons.INC
7. Payne Adrian, Frow pennie,(2004) The role of multichannel integration in customer relationship management Industrial Marketing Management 33
8. Payne,A.(2004), Frow pennie,"The role of multidhannel integration in customer relationships management" Industrial marketing management 33,2004
9. Retna,s kala & Tee NG pak,(2011),"communities of practice: dynamics and success factors".leadership& organization development journal vol. 32 No.1,pp.41-59
10. Hammer.M,Stanton.S.A,(1994), " Reengi neeringwork: Don't automate obliterate" ,Harvard business review ,(68:4),104-112
11. Bhatt,G.(1998)"Managing Knowledge through people". Knowledge and Process Management:Journal of Business Transformational, Vol.5No.3,pp. 71-165.
12. Glasser,p.(1998), "The Knowledge factor" ,CIO,15December,pp.1-9.
13. Winer, R, S.(2001),"Framework for Customer Relationship Management",California Management Review, Vol.43, No.4,
14. Berry,L.L(1983), "Relationship marketing" ,in Berry,L.L.,Shostack,G. L.and Upah, G.D.(Eds), Emerging Perspectives on Services Marketing.Chicago:American Markting Association.25-8.
15. Kotler,p.and G.Armstrong(2004),principles of Marketing.10th ed.New Jersy prentice-Hall.Englewood Cliffs.
16. Karakostas,B.,D. Kardaras,and E.Papthanassiou (2005), "The state of CRMadoption by the financial servies in the uk: an empirical investigation" ,Information & Management,42(4),853-63.
17. Burnett. (2001).Handbook of key customer Relationship Management: "The Definitive Guide to Winning, Managing and Developing Key Account; prentice Hall :new Jersey.
18. Hampe j.F & P.Swatman (2002), Customer Relationship Management, Case Studies of Five Swedish, Luella university o Technologies.
19. Feinberg j. &N.C.Romano.(2003). Electronic Customer Relationship Management Revising the Principles of Usability and Resistance - an Integrative Implementation FrameWork, Business Process Management Journal , Vol .9,No.5.
20. Paquette, S.(2006)."Customer Knowledge Management", http://www.fis.utoronto.ca.
21. Rollins, M . and Halinen, A,(2005),"Customer Knowledge Management Competence: Towards a Theoretical Framework", of the38 th Hawaii International Conference on System Proceedings Sciences.
22. Shami Zanjani, M. Rouzbehani , R. and Dabbagh H,(2008),"Proposing a Conceptual Model of Customer ‹Knowledge Management: A Study of CKM Tools in British Dotcoms". Proceedings of World Academy of Science Engineering and Technology,28,2070-3740.

Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 49-55

Reaching to criteria for intervention in urban public spaces to enhance social capital
(With the emphasize on pedestrian streets)

Mohamad Moayedi

Abstract-what leads to healthy citizenship and public life more than other factors today, is paying attention to social dimensions in planning. Environmental qualities in people perception of space and their pause and movement pave the way for being watched and watch in minimum level and social communications in maximum one. Hence, focus on environmental quality will follow efficiency and vitality in urban spaces, current public life and social capital encouragement. This survey focuses on social capital as an effective factor in social communications and a missing link in urban planning, based on wide studying upon social capital features and urban spaces qualities. Thus, show that increasing public space quality leads to socialization and public communications. Survey using analytic-descriptive method, documentary and field study, indicates walking, sociability, safety and security as important factors in creating social capital. Additionally, make suggestions to realize above factors. Regarding to social capital definitions and importance of social relationships, reinforcing social capital is due to improving urban qualities that are designers` tools to enhance urban environment.

Key words-activity, quality, social relationships, spatial quality, walkability.

I. INTRODUCTION:

Paying attention to sociable and human-oriented urban spaces has been rooted in urban planning history which have caused vital urban textures about them during different ages. But suddenly after industrial revolution, automobiles caused huge turnings in cities and public spaced just served roadways. On the other hand, urban renaissance transformed cities from a "tool" to meet people physical and mental needs, to an art work in which visual features were preferable to current functions. In late 1960 by evoking negative outcomes of automobiles in city spheres along with new urban theories, main professional trend was restricting drives to regenerate urban public spaces. As they were introduced as "the most important part of cities"(Tibbalds,1992,15). Besides, the ability of citizens` face to face communicating have caused urban spaces to be expressed as a place to form social capital, while increasing their quality is the most important contemporary goal of urban design(Madanipour,1996,246). Unfortunately, urban spaces and their role in increasing social relationships, vitality and public dynamism have not been considered in our country, which have caused roadways to be designed as driving facilitators. Hence, human needs are not met and people consider those spaces just as passing ways. The result is no public confrontation, sense of place attachment, face to face meeting, watch and be watched. The worst result would be dead urban spaces and mental illness.

This survey is decided to explore what necessities are essential for urban public spaces to form social communications and at last, social capital. It assumes that environmental quality enhancement is severely effective on increasing social communication. Survey using analytic-descriptive method, documentary and field study, is looking forward criteria of improving quality of public spaces in order to socialize them as well as reinforcing social capital. To follow its goal, at first social capital and communications are explained briefly, then, components of evaluating social capital and criteria effective on urban public space quality are presented.

II. THEORY:

A. Public space:

Space is a generic content which has surrounded us(Headman,1381,67). Although it consists of incongruous elements, but their interactions forms a harmonious structure that makes space identity(Rafieian,1381). Lexicon description for "public" shows its contradiction with "private". Belonging to all, belonging, affected from or being related to society are mentioned In Oxford lexicon(www.oxfordreference.com). In general, urban public space is a spatial mass physically which is not limited to place shape and form. It also possesses wide social dimensions dealing with individuals` actions and connections(Madanipour,1999). This space consists of two general concepts: one is immaterial public space which relates to values, policies, ideas and inner segments of society(Habermas,1987). The other is material space that presents physical realms of society like square or street(Linch,2007). Loufer believes that each society has made its specific social space by the passage of time, in which various needs of people may be met(Hayden,1996). Urban space is one of these spaces with continuous public life for all groups(Ortiz and Prats,2004). Public spaces are capable to identify users, reflecting culture, values and believes(Francis,1989).

B. Public spaces and forming social relationships:

Urban space is not just a physical concept. It is also place of citizens` communication and activities. In other word, its main feature is social relationship; to the point that places with no such a thing may not be considered as public spaces. Tibbalds(1992) indicates public space as a part of city texture which is accessible to all physically and visually. Keran et al(1992) knows it a common bed for activities and social implementations like ceremonies and customs as well as presenting political opinion. From another point of view, urban space is not only limited in geometrical dimensions architecturally, it is also better

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 49-55

identified by social relationships, behaviors and aesthetical indexes. It gains desirable or condemned characteristics, regarding time and place necessities(Golany,1996). Therefore, public space responsibilities are bridging social networks, placing ceremonies and coordinating citizens` activities. In other words, it paves the way for social capital formation(Gehl,1987).

C. Urban pedestrian streets:

One of the most important aspects of human presence in urban spaces which leads to vitality and dynamism is walking. Following modern Some theorists` opinion about public space characteristics are mentioned in table(1). urbanism failure and signifying ecologic issues, theorists like Jacobs and Whyte presented regenerating pedestrian streets that had been forgotten for many years(Fruin,2004). So, they became a main factor of urban life that increase environmental quality. Pedestrian streets are known in different words like car free zones, walkable street and auto restricted zone. Their common feature is priority of pedestrians in the sphere in which, high social interactions take place. Pedestrainization means building car-free streets(Cown,2005,285).

D. Main characteristics of public spaces:

Table1. Different aspects and general features of public spaces

General features	Features of public spaces
- Free access for all groups of people (Rafieian,2001,9),(Madanipour,2002,8), Aurigi, Graham, 1997,3)، (Bridge G; Watson S,2000,12) ، (Dines; Cattell ,2006,5) ،(Mean; Tims,2005,12)، (Pitcher: et al,2006,23) ،(Holland, et all,2007,10) ،(Jones; et al,2007,3) ، (Jipeng, Fang,2011) - Linked to sidewalks and pedestrian streets (Bridge G; Watson S,2000,12)؛ - aesthetical concepts (Rafieian,2001,9) - Socio economic values (Rafieian,2001,9), (Mean; Tims,2005,12) - No limitations to physical aspects (Bridge G; Watson S,2000,12)؛ - Controlling by a public/supervised by local governments organizations (Madanipour,2002,8), (Carmona, et all,2003,10) ،(Mean; Tims,2005,12) ،(Dines; Cattell ,2006,5))، (Pitcher: et al,2006,23 ،(Mammon; Paterson,2005,14) - People participation in making that (Madanipour,2002,8), (Pitcher: et al,2006,23) - Diverse activities (Madanipour,2002,8), (Pitcher: et al,2006,23) ،(Carmona, et all,2003,10) ،(Mean; Tims,2005,12) ،(Holland, et all,2007,10)، (Jones; et al,2007,3) ،(Mammon; Paterson,2005,14) ،(Day; Stump,2003,12) ، (Dewar,2004,69) - Public activities (Bahreini,2005,313), (Bridge G; Watson S,2000,12) (Day; Stump,2003,12)، (Carmona, et all,2003,10 ، (Mammon; Paterson,2005,14) ،(Mean; Tims,2005,12),(Pitcher: et al,2006,23 ،(Holland, et all,2007,10) - Meeting different needs of social groups, according to their age and sex (Day; Stump,2003,12)، (Carmona, et all,2003,10)،(Pitcher: et al,2006,23 ،(Holland, et all,2007,10) - Social relationships (Rafieian,2001,9), (Bahreini,2005,313), Aurigi, Graham, 1997,3)،(، (Bridge G; Watson S,2000,12) ،(Day; Stump,2003,12)، (Carmona, et all,2003,10)، (Mammon; Paterson,2005,14) ، (Mean;	- Spaces out of private and semi private realm (Mammon; Paterson,2005) - Natural and artificial urban environment(Rafieian,2001,9), - Roads and motor networks (Rafieian,2001,9),(Bahreini,2005,313) Aurigi, Graham, 1997,3) ،(Bridge G; Watson S,2000,12)، Tims,2005,12) ،(Pitcher: et al,2006,23) ، (Jones; et al,2007,3) - Public paths in residential and commercial regions and neighborhoods(Rafieian,2001,9) - City boulevards (Bridge G; Watson S,2000,12) - City communication centers (Bahreini,2005,313) ، (Mean; Tims,2005,12) ،(Dines; Cattell ,2006,5) - Squares (Rafieian,2001,9),(Bahreini,2005,313), (Aurigi, Graham, 1997,3) ،(Bridge G; Watson S,2000,12) ،(Carmona, et all,2003,10) - Urban open spaces (Rafieian,2001,9), (Holland, et all,2007,10) ،(Pitcher: et al,2006,23)، (Jipeng, Fang,2011) - City parks (Rafieian,2001,9), (Bahreini,2005,313), (Bridge G; Watson S,2000,12) ،(Carmona, et all,2003,10) ،(Mean; Tims,2005,12)، (Pitcher: et al,2006,23)، (Jones; et al,2007,3). - Public spaces (Aurigi, Graham, 1997,3) ،(Dines; Cattell ,2006,5) ، (Day; Stump,2003,42)؛ - Recreational spaces and play fields (Bahreini,2005,313), (Mean; Tims,2005,12) - Malls and shopping regions (Mean; Tims,2005,12)؛ - Residential neighborhoods (Mean; Tims,2005,12 ،(Jones; et al,2007,3) - Public transportation stations (Dines; Cattell ,2006,5)، (Pitcher: et al,2006,23) - Defensible spaces (Aurigi, Graham, 1997,3) - City institutes and cinemas

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 49-55

Tims,2005,12) ،(Dines; Cattell ,2006,5) ،(Pitcher: et al,2006,23) ،(Holland, et all,2007,10) - Proper connection with bulks (Madanipour,2002,8), (Dines; Cattell ,2006,5) - Thoughtful designing (Aurigi, Graham, 1997,3) - Fit-to-space infrastructures (Aurigi, Graham, 1997,3) ،(Dewar,2004,69) ،(Mammon; Paterson,2005,14) - Human scale (Carmona, et all,2003,10)، (Bridge G; Watson S,2000,12)، (Jipeng, Fang,2011) - Broad spectrum(bitt keneck,city parks, squares,etc) (Jipeng, Fang,2011) - Being affected by norms and rules (Carmona, et all,2003,10) ،(Dines; Cattell ,2006,5) ، (Holland, et all,2007,10) ،(Jones; et al,2007,3) - Having an important role in identification and presenting culture (Day; Stump,2003,12)، (Mean; Tims,2005,12) - Evoking past memories (Dewar,2004,69) - Space different usage according to seasons,sex,time,age: ✓ Elderly people use space in early day, ✓ Children use space after finishing school, ✓ Adults use space in the evening and night. (Dines; Cattell ,2006,5) ,(Holland, et all,2007,10) - Identified entrances (Pitcher: et al,2006,23) - Visual penetrability (Jones; et al,2007,3)	(Carmona, et all,2003,10)

Beside above issues, many professionals are up to this opinion that urban public spaces would be described just by these two principles:
1. Free and unlimited access for all groups of people in which station, character, role, age and originality are effective in usage level,
2. Social and reciprocal communications(Mean,Times,2005,12).

E. Activity in public space:

Necessary, optional and social activities are feasible in urban spaces in which social and optional activities are effective in improving quality of urban spaces. Necessary activities would be done under any circumstances, because people are forced to accomplish them. Optional activities only happen if climate conditions, captivation and invitation exist properly. These activities are sensitive to environmental quality. Social activities happen when people move in a common place in which watching, starting dialogue, confronting others and active or passive participation would be done. A good city presents a broad spectrum of optional activities(Gehl,2004,5). Social activity is nominated "final activity" as well because of being affected by other activities(Gehl,1987). Any necessary activity is done in disqualified areas while in qualified ones, all kinds of actions may be found. It means city expresses tempting spheres(Gehl,2004,5).
Each theorist wields a specific concept to describe qualifies urban spaces. Aplyard believes that the final goal of urban design is to create caring environment which form social relationships and has maximum consistency with the place to cherish tranquility(Lennard and Lennard,1993,4). Cullen pays attention to exploration and mystery in urban spaces as well as integration. Also considers urban design goal improving social quality and social lives of citizens, form and human stuffs in harmony(Cullen,1961,57). Hall survey culture in urban spaces and focuses on furnishing in public space formation(Hall,1990,162). Tovitra relates secret canvas to spots of mental comfort which help citizens find the role of city in forming its character(Mitcherlich,1963,15). Zucker relates mental stop to pre-designed social nodes which turn society to a real community not just a gathering of people(Zucker,1970,1). Halprin presents a successful urban space as a creative and elective environment(Halprin,1963,7). Altman figures designing of effective environment as a solution to practice psychological theories in city that also responds to different trends. This environment controls social relationships as well. He believes that the most important goal of environmental designing is creating places which are fit to users behaviors while improving sense of place(Altman,1975,255). Rapoport, interpreting human and environment connection, focuses on meaning. Environment in his opinion consists of connections between things, people with things and people with people. He firms designing on four principles: space, time, connection and meaning(Rapoport,1990,197). Gehl discusses about living among buildings, social usage of public spaces and the effect of human sensory abilities on way of using the space. He relates city charisma to the number of people gathering in public spheres, spending their time. In an inviting city, people experience things directly by senses(Gehl,1987,77). Whyte insists in urban planning stress on human behaviors, instead of traffic, economy, aestheticy or form in cities. He explains "street life". In his idea a public space

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 49-55

refers to a place in which people talk to each other for hours, are comfortable in and eager to attend it(Whyte,1980). Jane Jacobs figures attractiveness and vitality of urban spaces that emanate from pause spots, mystery, clear boundaries and focus points(Jacobs,1996,74). Lang talks about inviting places which facilitate individuals` experience are human scaled and beds for diverse actions, also accepts ideal behaviors of citizens. He emphasizes on behavioral subbase to be bonded and in a logical hierarchy to fit people behavioral pattern(Lang,1987,130). Gosling signifies changing paradigms and values is important to increase social relationships in urban spaces(Gosling,1996,226). Lefebver presents the space community in which public memories, specific symbols and social relationships fall out(Lefebver,1991).
According to above theories, urban public spaces need to be proper for social life to increase 2008,33).

F. Social capital:

According to public spaces, social capital relates social energy, community spirit, community life, social glue, etc. This concept first considered in 1916 by Hanifan in west Virginia university which was mentioned in death and life of American cities(1961) by Jane Jacobs. Then Robert Putnam, political philosopher, expanded it with attention to Italian and American societies. Other theorists like Bourdieu and Francis Fukuyama wielded it as well(Alvani et al,1385,64). Bourdieu presents social capital as inner group bonding which facilitates access to opportunities, information, resources and station for individuals(Khazayi et al,1385). Coleman also believes that social networks may reinforce closer connections between people which results in sanction in local level(Khazayi et al,1385). Putnam says social capital is a feature of social organizations like networks, norms and trust which facilitates harmony and contribution to obtain mutual benefit(Fathinia et al,1386,200). Therefore, social capital may be considered as a compound with structure, function and content. Its structure is social connections, content is trust and norms and function is social interactions. The result is also contribution economy and harmony(Kay,2005). Jane Jacobs brings social capital to the light. Compact social networks in old suburbs show a special form of social capital including hygiene, no crime and quality of life. This bonding works better than formal organizations. To determine evaluating indexes, social capital indicators are presented in table(2):

Table2.Social capital indexes

Theorist	Social capital indexes
Putnam	Awareness, participation, civil organizations(Field,2003,124)
Inglehart	Trust: this index has been used in world values survey. In Field`s idea, trust is not a part of social capital. It is actually the result of it and may be considered as a secondary way to evaluate it not as an inclusive index(Field,2003,125).
Onyx and Bohlen	Participation in local community, activism in an station, trust and security, neighborhood bonding, capacity of complying differences, value life, job bridging, family and government bonding(Qiasvand,2008,21)
Fukuyama	Crime, family collapse, addiction, appealing, suicide(Akhtar Mohaqeqi,2005,20)
Li,Pickles and Savic	neighborhood bonding, social network, civil participation: all these issues are related to trust(Moosavi,2008,57).
World bank	Groups and networks, contribution and trust, social activities, information and connections, inclusion, empowering(Qiasvand,2008,21)
Aldrige and Halpern	Citizens` trend to participate in public unions, participation in election or political selection, local trust(Aldrige, Halpern and Fitzpatrick,2002)
Hall	Formal or informal networks and trust that come to reality by sociability and eagerness of attending public spaces(Hall,1990).

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 49-55

G. Urban space and environmental quality :

Urban space quality is sum of many components(Alipour et al,1391). PPS institute studying more than 1000 urban public spaces in different countries and assessing citizens` opinion, indicates four main factors effective on urban space quality: access and linkage, comfort and image, activity and uses and more important than others, sociability. Table(3) presents some theorists` opinion upon urban space quality:

Table3. Urban public space qualities from theorists` point of view

Bentley et al in "responsive environments"(Bentley et al,2002)		
Legibility	Variety	Penetrability
Sensory richness	Visual proportions	Flexibility
		Belonging
Punter and Carmoona in "design dimensions of planning"(Punter, Carmoona,1997)		
Quality of views	Quality of urban landscape	Quality of Environment sustainability
Quality of public areas	Quality of building form	Quality of city form
Carmoona in "public spaces, urban spaces"(Carmoona et al,2006)		
Public space	Hard space and soft space	Accessibility
Mixing and compaction	Urban landscape	Safety and security
		Inclusion
Allan Jacobs and Donald Aplyard(1987)(Golkar,2000)		
Reaching to opportunities, dream and happiness	Identity and control	Vitality
Urban self sufficiency	Public life	Originality and meaning
		For-all environment

Each presented component is explained briefly here:

1. Walkability: Pedestrian street is effective on improving social relationships(Gehl,1987). Walking emanates from wholesome and supportive landuses that attract users constantly. People get to public spaces to watch and experience others. Hence, fragmented public spaces do not help walking(Bahreini,2000).
2. Security: It points to anomic behaviors against individuals and their capital. If no preventing action is taken, people will be threaded potentially and defacto(Salehi,1387,112). Security is made by people themselves via a complicated controlling network and adherence to norms(Jacobs,1965).
3. Safety: It points to environmental factors which may cause incredible events, potential dangers and physical or financial harms(Salehi,1387,112).
4. Sociability: Gehl, describing city sociable spaces, emphasizes on "inviting" the most. He relates city attraction to the number of people, gathering in a public space, spending their time(Gehl,1987). According to table(4), most important criteria of improving urban public spaces quality are: walking, safety, security and sociability. Table(5) presents principles of creating social capital in cities.

Table4. Criteria of urban public spaces quality

Criteria	Quality of urban spaces
Pedestrians absorbing landuses	Walking
Pedestrians safety against driving	
Interaction of car and foot path	
Paving to facilitate walking	
Walking flow according to primary and secondary landuses	
Effective width of pedestrian streets	
Service level in pedestrian streets	
Eyes on the street theory (Jacobs,1965)	Security
Brocken windows theory (public control)	
Nocturnal landuses	
Public presence (public control)	

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 49-55

Connection of nodes and edges with the immediate area	
Night illumination	
Questionnaire information(acquisition, surveillance,…)	
Diverse Passing traffic	Safety
Traffic volume	
Number of traffic nodes	
Interaction of car and foot path	
Roadways safety	
Questionnaire information(vehicle nuisance,…)	
Pedestrians absorbing landuses	Sociability
Mixed landuses consistency	
Urban Public furniture	
Designed spaces and gathering feasibility	
Climate welfare	

Table5. Indexes of social capital

Criteria	Index	Variable
Trust(formal, informal, generalized, environment trust ability)	Trust	Social capital
Cooperation	Norms	
Collaboration		
capacity of complying differences		
Being effective in life		
Social mediation		
Social support		
Social participation	Networks	
Integrated social networks		

III. CONCLUSION:

Today, what leads to citizens` healthy life is paying attention to social dimensions in urban planning. Environmental quality paves the way for people attending public spaces, vitality, and public life and last but not least: social capital. In this survey, social capital was considered as an effective factor, however a missing link, emanated from social relationships. Analyzing various definitions of social capital underpins complicated factors, hard to be determined exactly. Urban quality factors, as designers` tools pave the way for social capital. Hence, it will not be realized unless with high quality of urban spaces.

REFERENCES:

[1] Aktar Mohaqeqi M,2005,social capital,Tehran
[2] Aldridge, S., Halpern, D. & Fitzpatrick, S. (2002). Social capital. A discussion paper. London : Performance and Innovation Unit.
[3] Alipour R,et al,2011,analysis the invironmental quality indexes in deteriorated area of Bandar Lenge,baq nazar magazine,No9
[4] Altman, I. (1975). The environment and social behavior. Monterey. CA : Brooks/Cole.
[5] Alvani M, Shirvani A, 2005,social capital(contents,theories and practices),Esfahan university
[6] Aurigi, Alessandro; Graham, Stephen (1997) , "Vitual cities, Social Polarization and crisis in Urban Public Space", Journal of Urban Technology, University of Newcastle, pp.72-108.
[7] Bahreini H,2000,urban designing process,Tehran university
[8] Bentley Y et al,2002,responsive environments,science and technology university,Tehran
[9] Bridge G; Watson S (2000), "City Publics in A Companion to the city", Oxford Blackwell Publisher.
[10] Carr, et al (1992), "Public Spaces", www.pps.com.
[11] Carmona, Mathew & others (2003), "Places, Urban Spaces", Architectural Press, Amsterdam.
[12] Cowan, R. (2005) The Dictionary of Urbanism, London, Streetwise Press.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 49-55

[13] Cullen, G. (1961). The concise Townscape. London : Architectural Press.
[14] Day, K; Stump, D (2003), "Confrontation and loss of control: Masculinity and men's fear in public space", Journal of Environmental psychology, pp.100-120.
[15] Dewar; F Todeschini (2004), "Rethinking Urban Transport after Modernism; Lessons from South Africa", United Kingdom, Ashgate publishing L.t.d.
[16] Dines, Nicholas; Cattell Vicky (2006), "Public spaces, Social relations and well-being in East London", Published by the policy press for the Joseph Rowntree Foundation. From www.Jrf.org.uk.
[17] Fathinia M,et al,2005,social capital:factors and results, Tehran social situation congress,Tehran
[18] Field,John,(2003), Social Capital, Routledge, London.
[19] Francis, m,(1989), control as a dimension of public space quality. In public places and spaces. (eds) I Altman, eh zebu, pp. 147-172, New York: plenum press.
[20] Fruin,J,(2004),Planning and design for Pedestrians,time-saver standards for urban design. Donald Watson: Alan Plattus.
[21] Gehl, J. (1987). Life between Buildings. Translated by Koch,J. New York : Van Nostrand Reinhold.
[22] Gehl, J. (2004). Public spaces, public life. Copenhagen : Danish architectural press.
[23] Golany, G. (1996). Geo-space urban design. New York : John Wiley & Sons.
[24] Gosling, D. (1996). Vision of Design. Britain : Academy Editions.
[25] Hall, E. T. (1990). The Hidden Dimension. New York : Anchor Books Editions. Random House, Inc.
[26] Halprin, L. (1963). Cities. Massachusetts : the MIT Press.
[27] Headman R,2001,introduction to urban design.
[28] Hayden D,1996, What would a non- sexist city be like?, Speculations on housing, urban design and human work, in legates, Richard and Frederic stout, eds, the city reader, routledge, London.
[29] Holland C; Clark A; Katz J (2007), "Social Interaction in Urban Public Places", Published by the policy press for the Joseph Rowntree Foundation. From www.Jrf.org.uk.
[30] Jacobs, J. (1965). The Death and Life of Great American Cities. Harmondsworth : Penguin.
[31] Jones, Peter; Roberts, Marian; Maris Linda (2007), "Mixed use streets: Enhancing Livability and Reconciling Conflicting pressures", Published by the policy press for Joseph Rowntree Foundation. University of Westminster.
[32] Jipeng, Liu; Fang, Ya (2011), "Urban Public Space", at www.scientific.net.
[33] Key,A,(2005), Social Capital, The Social Economy and Community Development, Oxford University press and community, Development Journal, advance Access Publication.
[34] Khazayi M,et al,2005,social capital in slums,Tehran social situation congress,Tehran
[35] Landry, R. & Lamari, N .M. (2000). Does Social capital determine innovation? Paper presented at the 4th international conference on technology policy and innovation Brazil.
[36] Lang, J. (1987). Creating architectural theory : The role of the behavioral sciences in environmental design. New York : Van Nostrand Reinhold.
[37] Lefebvre, H. (1991). The Production of Space. London: Blackwell, Oxford.
[38] Lennard, S. G. & Lennard, H. (1993). Urban Space Design and Social Life, companion to contemporary architectural, Rutledge, London.
[39] Madanipour, A. (1996). Design of Urban Spaces: an inquiry into a Socio-spatial Process. Conducted by University of Newcastle. New York : John Wiley & Sons
[40] Mammon, Nisa; Paterson, Jody (2005), "Urban space, Memory and the public realm", Presented to the community Healding Regional Conference, hosted by the institute for justice and reconciliation, Cape town.
[41] Mean, Melissa; Tims, Charli (2005), "People Make Places, Growing the public life of cities", Published by Demos Report, available from www.demos.co.uk.
[42] Mitcherlich, A. (1963). Die Unwirtlichkeit Unserer Stadte; Anstiftung Zum Unfrieden [The harshness of our cities ; incitement to unrest]. Frankfort : Edition Suhrkampverlag.
[43] Moosavi A,2005,community development with the emphasize on social capital, M.A thesis of urban planning,Tarbiat Modarres university,Tehran
[44] Pitcher, Jane; Compbell Roise, Hubbord Phil (2006), "Living and working in areas of street sex works", from conflict to Coexistence. Www. Jfr.org.uk.
[45] Pourjafar M,et al,2008,urban design and social capital in urban spaces,Tehran
[46] Putnam, R. D. (2000). Bowling Alone: The Collapse and Revival of American Community. New York : Simon & Schuster.
[47] Qiasvand E,2008,the effect of social capital on citizens` quality of life,M.A thesis of urban planning,Azad university
[48] Rafieian M,2001,urban public spaces:review and evaluation,fine art magazine,No23
[49] Rapoport, A. (1990).The meaning of the Built Environment : A Nonverbal Communication. Arizona : University of Arizona Press.
[50] Salehi A,2007,environmental factors of a secure urban space,Tehran
[51] Tibbalds, F. (1992). Making People Friendly Towns: Improving The Public Environments in Towns and Cities. Harlow : Longman Press.
[52] Whyte, W. H. (1980). The Social life of Small Urban Spaces. Washington D.C. : The Conservation.
[53] Zucker, P. (1970). Town and Square: from the Agora to the Village Green. Massachusetts: the MIT Press.
[54] www.Oxfordrefrence.com

Journal of Middle East Applied Science and Technology (JMEAST)

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 62-65

Relationship of audit committee and internal control to income smoothing on the Tehran stock exchange

Esfandiar Malekian[1] , Sahar Sepasi[2], Javad Ramezani[*3], Morteza Kazempour[4]

1. Associate professor of accounting, Mazandaran University, Babolsar, Iran.

Email:e.malekian@umz.ac.ir

2. Assistant professor of accounting, Tarbiat Modares University(TMU), Tehran, Iran.

Email : Sepasi@modares.ac.ir

3. Ph.D student of accounting university of Mazandaran, faculty of member, Islamic Azad University, branch of Nour, Mazandaran, Iran.

Email: Javad.Ramezani58@gmail.com

4. MSc student of accounting, Tarbiat Modares University(TMU), Tehran, Iran.

E-mail: kazempourmorteza@yahoo.com

Abstract - This study investigated the relationship of th audit committee, internal auditing and income smoothing in firms operating on the Tehran Stock Exchange. Income smoothing was measured as discretionary accruals based on the modified Jones model. The sample size was 70 companies operating on the exchange during 2013-2014. The results showed a significant positive association between the audit committee and internal audit unit and income smoothing .The results indicate that there is no significant association between income smoothing and the number of audit committee members.

Key words : Audit committee, Internal control, Income smoothing

1.Introduction :

Corporate governance has long existed and has attracted the attention of researchers since the late 1980s and 1990s. [1] This study proposed two mechanisms of change: (1) changes in a company cause by globalization, competition and technology; (2) major financial scandals in a number of European companies. Scandal is an inherent conflict of interest between managers and owners; despite conflicts of interest, companies have attempted to provide guidelines for the activities of their employees. It is also possible for corporate governance play a role in the organization by: (1) Board and Management (2) Audit Committee (3) , internal auditing (4) the external auditor (independent) .[2]

The main objective of the present study was to investigate the relationship between audit committees, internal audits, financial distress and income smoothing. The goal of the study was to discern whether the audit committee and internal auditing has a significant impact on income smoothing.

2. Literature review :

Previous studies [3-4-5-6] have concluded that organizational transparency will improve if the audit committee is composed solely of independent directors. Klein[5] reviewed 692 companies in the USA and concluded that audit committee independence is negatively associated with accruals and a decrease in independence of the committee increases abnormal accruals of the company.Yang and Krishnan found that over a three-month period there was a significant association between audit

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 62-65

committee independence and discretionary accruals[7]. Bradbury noted that independence of the audit committee increased the quality of corporate accounting[8]. Davidson showed that the audit committee can decrease opportunistic earnings management in the following ways:[9]

- Assessing the competence and independence of the external auditors
- Participating in discussions with company management and external auditors on critical accounting decisions

Pucheta-Martı´nez collected and analyzed data from 86 Spanish companies between 1996 and 2001. He concluded that an audit committee has no effect on the quality of financial reporting.[10] Pucheta-Martı´nez and Fuentes-Barbera studied 142 Spanish companies and found a positive relationship between non-executive members of the board of directors and voluntary formation of an audit committee.[11]

The Cadbury Report found that, for the audit committee of the company to play an effective role, it must have at least three members.[12] The Blue Ribbon Report (1992) recommended that the audit committee have at least three members and hold four meetings per year. In 2002, the Sarbanes-Oxley Actrequired that the number of members on the audit committee should be at least three.

Lipton & Lorsch (1992), Jensen (1993) and Yermack (1996) found that audit committee members influence a committee's decisions.[13-14-15] Beasley and Salterio (2001) sampled 627 Canadian firms in 1994 and stated that an increase in the number of independent members to the audit committee is positively correlated with the size of the board.[3] Lin et al. (2006) examined 212 US firms and found lower earnings management where the size of the audit committee is large.[16] Yang and Krishnan (2005) found that larger audit committees are associated with earnings management,[7] but Davidson, Goodwin-Stewart and Kent found no significant relationship between audit committee size and earnings management.[9]

In recent years, an internal audit unit has been suggested as an effective mechanism of corporate governance. Researchers have claimed that the relationship between audit committees and internal audits enhances the quality and reliability of internal control over financial reporting [17-18-19]. Several authors claim that a good relationship between the audit committee and internal auditors is necessary for the effectiveness of good internal control mechanisms and to improve the quality of financial statements.[17-18-19]

Ismail et al found that there is a significant and positive correlation between audit committee size and board of director size with earning quality.[20] Karagiorgos et al. showed that internal audits are important for implementation of corporate governance.[21] Ebrahim found that, in Egypt, an internal auditor had a negative impact on the effectiveness of corporate governance.[22] Dragalas et al. examined the relationship between internal auditors and key factors of corporate governance (board and audit committee) and the relationship between internal audits and corporate governance and stated that efficient corporate governance is essential for firms that operate in developing countries. Thus, internal audits with confidence and consulting services are essential to corporate governance.[23]

Laura Sierra Garcı´a and et al. showed that there is a significant negative relationship between the size of the committee and the number of audit committee meetings and earnings management. They also found a negative relationship between internal auditing and earnings management. [24]

3. Hypothesis:

H_1 : There is a significant relationship between audit committee and income smoothing.

H_2 : There is a significant relationship between the number of audit committee members and income smoothing.

H_3 : There is a significant relationship between internal auditing and income smoothing

4. Research methodology :

This study is an applied research. The population of this study was firms operating in the Tehran stock exchange during 2013-2014. A stratified random sampling method was used to select the sample firms. The firms were categorized in the population and 70 firms were selected for the research sample. Data was collected for the audit committee and internal auditing from company reports. Data about internal audit functions was also collected from the Tehran Stock Exchange website. For analysis of the data collected during the course of this study, the ordinary least square regression method was used with an econometric software package.

5. Variables and research models :

Linear regression analysis was performed to examine the simultaneous effects of the explanatory variables on income smoothing. The OLS model was used to examine the relationships of the parameters. The model is described as follows:

(۱)

$$IS_{i,t}= \beta_0 +\beta_1 INDPAC + \beta_2 MEMBER + \beta_3 IA + \beta_4 Control\ variable + \varepsilon_{i,t}$$

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 62-65

5.1. Dependent variable :

$IS_{i,t}$ is income smoothing that the discretionary accruals proxy (DACC) for this study is obtained by fitting the modified Jones accruals model as follows:

(1)

$$TACC/A_{t-1} = \beta_0 (1/A_{t-1}) + \beta_1 (\Delta REV_t /A_{t-1}) + \beta_2 (PPE / A_{t-1}) + \mathcal{E}$$

The discretionary accruals proxy (DACC) for this study is obtained by fitting the modified Jones accruals model as follows:

(2)

$$DACC /A_{t-1} = TACC /A_{t-1} – [\beta_0 (1/A_{t-1}) + \beta_1 (\Delta REV_t / A_{t-1}) + \beta_2 (PPE / A_{t-1})]$$

where TACC is total accruals measured as income before extraordinary items less cash flows from operations, A is total assets, D REV is the change in operating revenue; PPE is gross property, plant and equipment.
Non-discretionary accruals (NDACC) are the predictions from the OLS estimation of model Eq.1, while discretionary accruals (DACC) are the residuals. So, the dependent variable will be an absolute value of discretional accruals.

5.2. Independent variables :

INDPAC is a dummy variable that takes the value 1 if audit committee is independent and 0 otherwise.
MEMBER is number of members forming the audit committee.

IA is a dummy variable that takes the value 1 if firms have an internal audit function and 0 otherwise.

5.3. Control variables:

FD is financial distress that measured by ZMIJEWSKI financial score (1984) as a follow :

ZFS = -4.336–4.513 (ROA) + 5.679 (leverage) + 0.004 (Liquidity)

ROA is return on assets , leverage is a proxy that is measured by the ratio of total debt divided by total assets.
Total assets (Firms size) and percentage of shares held by members of the board of directors on the audit committee

6. Hypotheses test:

Table 1- Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.588[a]	.346	.283	.14558

a. Predictors: (Constant), INDPAC, IA, MEMBERSAC,ZFS, SHARESBD, SIZE

Table 2- ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.695	6	.116	5.462	.000[a]
	Residual	1.314	62	.021		
	Total	2.009	68			

a. Predictors: (Constant), INDPAC, IA, MEMBERSAC,ZFS, SHARESBD, SIZE
b. Dependent Variable: IS

Table 3 - Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 62-65

1	(Constant)	.408	.117		3.484	.001
	MEMBER	.046	.033	.159	1.402	.166
	INDPAC	-.127	.061	-.224	-2.093	.040
	IA	-.178	.057	-.335	-3.104	.003
	ZFS	.002	.001	.239	2.236	.029
	SIZE	2.797E-9	.000	.280	2.507	.015
	SHARESBD	.000	.001	-.032	-.306	.761

a. Dependent Variable: IS

The significance of variables associated with the audit committee was Sig. = 0.040, thus, it can be concluded that there is a significant relationship between audit committee and income smoothing. This relationship was reversed for the β negative coefficient and the first hypothesis was accepted.

The significance of the audit committee members was Sig. = 0.166, meaning that there is no significant relationship between size of audit committee and income smoothing; thus, the second hypothesis was rejected.

The significance of the observed variables means that the relationship between internal auditing and income smoothing on firms listed in the Tehran Stock Exchange is significant at the 5% error level. The β negative coefficient for this relationship was reversed; thus, the third hypothesis was accepted.

7. Conclusions:

This study investigated the relationship of the audit committee, internal auditing and income smoothing in firms operating on the Tehran Stock Exchange. Income smoothing was measured as discretionary accruals based on the modified Jones model. The sample size was 70 companies operating on the exchange during 2013-2014.

The results show that there was a significant and negative relationship between audit committee and internal audits and income smoothing in 70 firms operating in the Tehran Stock Exchange during 2013-2014. This study shows that there was a no significant relationship between the number of audit committee members and income smoothing in the test sample. These results are consistent
with those of Laura et al. in Spanish companies who found a positive association between internal audit and earnings management. [26]
The results of the study are subject to several limitations most of which suggest the need for further research. First of all, the data from this study was limited to 2013-2014 for internal audits and audit committees in Iran. A second limitation for internal audit and audit committee functions occurred because the focus of the study was affected by whether a company had internal auditing and an audit committee and not how this function operated.

References :

[1] Okpara J., Corporate Governance in DevelopingEconomy: Barriers, Issues, and Implications forFirms, Corporate Governance, 11(2), 2011, pp. 184-199

[2] Gramling, A. A., Maletta, M. J., Schneider, A., & Church, B. K. (2004). The role of the internal audit function in corporate governance: A synthesis of the extant internal auditing literature and directions for future research. Journal of Accounting Literature, 23, 194–244.

[3] Beasley, M. S., & Salterio, S. E. (2001). The relationship between board characteristics and voluntary improvements in audit committees composition and experience. Contemporary Accounting Research, 18(4), 539–570.

[4] Vafeas, N. (2001). On audit committee appointments. Auditing: Journal of Practice & Theory, 20, 197–207.

[5] Klein, A. (2002a). Economic determinants of audit committee independence. Accounting Review, 77, 35–52.

[6] Vicknair, D., Hickman, K., & Carnes, K. C. (1993). A note on Audit Committee independence: Evidence from the NYSE on grey area directors. Accounting Horizons, 7, 53–57.

[7] Yang, J. S., & Krishnan, J. (2005). Audit committees and quarterly earnings management. International Journal of Auditing, 9, 201–219.

[8] Bradbury, M. E., Mak, Y. T. & Tan, S. M. (2004). Board characteristics, audit committee characteristics and abnormal accruals. Available at SSRN: http://ssrn.com/abstract=535764. Accessed September 28, 2007.

[9] Davidson, R. A., Goodwin-Stewart, J., & Kent, P. (2005). Internal governance structures and earnings management. Accounting and Finance, 45, 241–267.

[10] Pucheta-Martı´nez, M. C., Fuentes-Barbera´, C., & Garcı´a-Benau, M. A. (2005). Auditor reporting and audit committee characteristics. Amsterdam: The Third Symposium European Auditing Research Network.

[11] Pucheta-Martı´nez, M. C., & De Fuentes, C. (2007). The impact of audit committee characteristics on the enhancement of the quality of financial reporting: An empirical study in the Spanish Context.Corporate Governance: An International Review, 15(6), 1394–1412.

[12] Cadbury Report. (1992). Report of the Committee on the Financial Aspects of Corporate Governance. London: Gee.

ISSN (Online): 2305-0225
Issue 2(7S), August 2014, pp. 62-65

[13] Lipton, M., & Lorsch, J. (1992). A modest proposal for improve corporate governance. Business Lawyer, 48, 59–77.

[14] Jensen, M. C. (1993). The modern industrial revolution, exit and the failure of internal. Control systems. The Journal of Finance, 48(3), 831–880.

[15] Yermack, D. (1996). Higher market evaluation of companies with small board of directors. Journal of Financial Economics, 40, 185–212.

[16] Lin, J. W., Li, J. F., & Yang, J. S. (2006). The effect of audit committee performance on earnings quality. Managerial Auditing Journal, 21(9), 921–933.

[17] Nagy, A. L. & Cenker, W. J. (2002). An assessment of the newly defined internal audit functions. Managerial Auditing Journal, 17(3), 130–137.

[18] Anderson, D. (2004). Strengthening internal audit effectiveness. Corporate Governance, 10, 45–60.

[19] Harrington, C. (2004). Internal audit's new role. Journal of Accountancy, 198(3), 65–70.

[20] Ismail, W., Dunstan, K. and Zijl, T. (2009). Earnings Quality and Corporate Governance Following the Implementation of Malaysian Code of Corporate Governance. Working Paper, School of Accounting and Commercial Law, Victoria University of Wellington, New Zealand.

[21] Karagiorgos T., G. Drogalas, P. Christodoulou, and M.Pazarskis, Internal Auditing as an Effective Tool for Corporate Governance, Journal of Business Management, 2(1), Internatinal Science Press, 2010, pp. 15-23

[22] Ibrahim E.E., Corporate Governance Practices andAuditor's Client Acceptance Decision: Empirical Evidence from Egypt, Corporate Governance, 11(2), 2011, pp. 171-183

[23] Drogalas G., P. Pantelidis, R. Vouroutzidou, E. Kesisi, Assessment of Corporate Governance via Internal Audit, Chios, Greece, Conference Proceedings Available at: http://www.drogalas.gr/en/publications/conferences/assessment-of-corporate-governance-via-internal-auditing, 2011

[24] Laura, Sierra Garcia., Emiliano, Ruiz Barbadillo & Manuel, Orta Pe´rez.(2012). Audit committee and internal audit and the qualityof earnings: empirical evidence from Spanish companies. Journal of management and governance, V.16, Issue 2, pp 305-331.