The impact of information technology on organizational structure of public libraries in the province of Gilan

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ABSTRACT

Purpose: *The objective of this study was to determine the impact of information technology on organizational structure province 's public libraries in guilan.*

Methodology: *The research is a useful survey descriptive method; study population consisted of all public libraries in the city of Gilan that its 73 libraries. The data gathering tools for the IT organization and structure of the questionnaire Robbins. For the analysis of soft spss software using descriptive statistics and Pearson correlation test and t-test was used in the inference.*

Findings: *Findings from this study showed that for all variables, complexity, centralization, formalization, there was a significant relationship towards organizational personnel . At the 95 percent confidence level p- values obtained for each variable with a value of 0.05 is compared , given that the values for all variables except for the less complex the rate of error is (0.05). Note that the confidence interval is positive , indicating above average (at least desirable) structure and the amount is variable. Between variables using information technology and organizational dimensions(complexity, centralization, formalization,organizational staffing ratios), there was a significant correlation. Given the positive correlation coefficient indicates a direct relationship between the two variables of information technology and organizational structure. The relationship between information technology use and organizational performance was significant.*

Results: *Results showed that public libraries inGilan¬ moderate use of information technology. IT could have an impact on the organizational structure of public libraries in the province, especially after the organization is recognized.*

Keywords: information technology, organizational structure, public libraries in gilan
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INTRODUCTION

Information technology is advancing ever more rapidly developing and changing. The computer systems in the decision-making process of fundamental changes cause (Alipur, 2006).

Alvin Toffler in his book points out that the shift in power to power three elements are: violence, wealth and knowledge. This means that if at the time of the industrial revolution, power, capital initials or wealth in the world, but today it was the day the power of knowledge that comes first in the world would. Toffler said that contrary to decades of prayer, the power of force and arms that determines the strength of global or initials speaker in the world. But human knowledge and information that can shed light on what the next world superpower in the future as a result of passive investments and economic and scientific information in this century, the investments will be minimal and less and less (Toffler, 1991).

A new view on the world of postmodern ruling shows that new and evolving demands of a dynamic economy and organizations requires new social structures, new leadership styles and new approaches in the organizational structure and all of a surge in production and in the present era of information is forcing organizations to re-approach the performance and activities (Alipur, 2006).

 Problem Statement

In recent decades, information technology position and performance of many communities, organizations and individuals have had a significant impact and in parallel there have been dramatic improvements in this area, the destiny of societies, organizations and individuals every day more than modern technology is tied to the past.

Obviously, in such a situation, recognition of the growing importance of information technology has become. Due to this fact, the IT environment is considered one of the important factors that affect the position, function and fate of communities, organizations and individuals can have serious effects. Discussing the impact of information technology on organizations and society is not a new issue and the beginning of the development of information technology has discussed this issue (Hassanpour Qrvqchy, 2006).

Including those with information technology is changing the organizational structure. An information system with data on the structure and submit it to multiple sectors, organizations can increase corporate portfolio management (clear Mohammedan, 2011).

Size or organizational structure are: (1) recognize the complexity 2. 3. 4. Focus areas are controlled. Considering the fact that in the future, nothing like IT organizations will not be able to change the design, research in this area is essential. On the other hand due to the desire of our country to use information technologies, management is required in advance of the likely impact of these technologies on organizations, individuals, etc. There is consciousness, and with eyes wide open information technology organization and enter use them (Alipur, 2006).

Library including organizations that are not exempt from this and with the help of information technology and building structure that it can take steps to achieve the goals of the library. Use of information technology to increase recognition, concentration and increasing complexity of the organizational structure of the library (Mollahoseini, 2011).

It is therefore essential that the impact of information technology on organizational structure of public libraries in the province of Gilan be examined to check the effectiveness of the strengths and weaknesses to be addressed gaps and weaknesses to light and resolved.

Research purposes

The main objective of this study was to determine the impact of information technology on organizational structure of public libraries Gilan province.

Secondary objectives

• Determine the dimensions of the relationship between information technology and organizational structure

• Understanding the Library of Gilan province in terms of the use of information technologies

• The recognition that information technology is changing the organizational structure of which one is most effective

• Determine the impact of information technology on organizational focus

• Determine the impact of information technology on organizational complexity

• Determine the impact of information technology on organizational recognition

• Determine the impact of information technology on locus of control (of personnel) organization Research questions

1. What is the impact of information technology on organizational structure Gilan Province's public libraries?

2. What is the impact of information technology on organizational focus Gilan Province's public libraries?

3. What impact IT on organizational complexity Gilan Province's public libraries?

4. How does the IT organization recognizes public libraries in the province of Gilan?

5. What is the impact of information technology on organizational control on public libraries in the province of Gilan?

Hypotheses

1 between the use of information technology and organizational structure and organizational focus, organizational complexity, organizational and safety recognized that there are significant organizational control.

2. managers, IT systems has improved the quantity and quality of performance.

3. The speed and accuracy in performing tasks and speed up access to information leads to better performance organization.

Background research

Hakimi (1996) in a study entitled "Setting the use of information technology in Zahedan university libraries in Education". The aim of this study is that the university libraries extent of information technology use. The results found that the use of information technology in university libraries in Zahedan is very low.

Salarpoor (2009) in a study titled "Evaluation of the use of information technology in academic libraries in the city" to determine the use of information technologies in academic libraries has provided the city. This study used descriptive survey and the results show that academic libraries in the city, there is a small amount of IT equipment and facilities and the use of information technology in academic libraries in the city are under 50 Percent.

Sartipii Yarahmadi (2009) in a study titled "Application of IT in enabling employees Region 5 University libraries", the amount of resources and application of information technologies in libraries were evaluated and then ensuring its use, its effects Empowerment has been on the job search. The results found that a significant impact in empowering IT Job Zone 5 University libraries, as well as factors such as the reduction in errors on professional development, job satisfaction, financial savings, speed of service, were approved by test.

Zamani muzafaabadi (2009) in a study titled "Evaluation of the use of information technology in public libraries in the city". With regard to the application of information technology and its impact on libraries, this study examined the use of information technology in public libraries in Shiraz. The results found that the use of information technology in public libraries Shiraz is very low.

Abolqasemi (2010) in a study titled "IT management standards in libraries and information centers" to evaluate the status of IT service management in libraries and information centers specialized in Tehran, to achieve the results that analyzes statistical discrepancy 4 of the 7 criteria for evaluation include: planning and implementing service management, service delivery processes, control processes, and the supply standard in libraries and information centers specialized in Tehran confirmed, and about 3 other criteria: management systems, communication processes, process solutions, not theoretical coherence. It also concluded that ISO 15489 is the first and most essential is the standard in libraries and information centers.

Simon (1994) as "the use of information technology to organizational design". The results found that the use of information technology in organizations and the role of information technology is used less organizational design is very low. Inhuman IT organizations generally takes as its model the systems involved in the mass processing of materials or symbol repetitive assembly line or a separate room full of employees. Literature on human relations with the introduction of fully automated machines are used.

Berne (2010) study entitled "The Impact of Information Technology on organizational structure". The main feature of this study, it was in a new environment. One of the main goals of this research is to develop a model and structural model for organizations in Hong Kong. The results found that the structures provided by Mintzberg be an appropriate basis for the study organized by the Hong Kong and to develop an appropriate model structure to help organizations in the country.

Lucas, Baroudi (1994), a study entitled "The role of information technology in the design of the organization". In this paper, a set of variables that information technology can be used in the design of organizations, and to discuss traditional design variables and then provide a series of options enabled by new information technologies (IT) deals. The results found that the design of information technology's impact on organizational design.

Machcheni (2007) in a study titled "IT and its role in modern organizations. The results found that information technology (IT) is a vital and integral part of the business plan has become. IT companies multinational mainframe systems and databases to maintain focus and small businesses are involved.

Park (2012) in a study titled "product architecture, organizational capabilities, and integration of information technology to gain a competitive advantage", achieved these results imply strategic design makes quality products to improve the efficiency of the total cost . Results show a Korean company that has a higher level of IT integration of the two Japanese companies on the market is better and more successful. In this study valuable insights on the impact of information technology integration strategy arises that leads to competitive advantage in global markets.

Astromyr (2013) in a study titled "realization of competitive advantage ERM using information technology", which was the result of employee relations management, an emerging trend in relation to human resources management by building and maintaining personal relations and mutually iT staff's valuable form. Although the newly established and growing process, but according to the ERM, there is little knowledge and agreement in this regard. According to the plan, major implications for further conceptual elaboration, on the theory and empirical evaluation of ERM to propose directions for future research are obtained.

MATERIALS AND METHODS

This study is an applied and descriptive survey. (Danaeefard, colors, November, 2004). The study population included 73 public libraries in the city of Gilan scattered among 16 city, city of Rasht with 9 library is the largest fully all libraries have been studied. Subjects studied, the use of information technology and its impact on the structure dimensions (complexity, formalization,centralization, the organizational staff) is.

Because of the number of members of the community were not so much that needs to be collected in this study. Therefore, the number of members of the community members, namely:

$$N=n \Rightarrow 73$$

After the study participants, the number of members of the 73 managers working in public libraries is one of Gilan province and in every library. The method used in this research was based sampling method and sample size with the size of the community.

The field was used to collect the data. In this study, in addition to search library records and other databases, to collect data to test hypotheses and assessment of staff of the questionnaires were used. Interview with the university and public library managers and experts in the field of research to express their opinion about the questionnaire and its implementation in this study was very useful. The study of and research in the field of research was very useful.

The questionnaire consisted of three parts: 1. the application of information technology (2) Inventory Inventory organizational structure according to 3 pm (formality and complexity and centralization) and (3) inventory of organizational personnel.

The validity of the study or the questionnaire used is a combination of three methods.

1. The existence of a standard questionnaire on organizational structure is to be cited. (Robbins questionnaire)

2. Sdry- the validity of the agreement, experts in relation to an index or benchmark for both questionnaires (IT) and the ratio of personnel.

3. Use the literature to determine the questions in this case, too, especially in the case of personnel prepared questionnaire was used.

The reliability of the questionnaire to determine the reliability of the questionnaire approved by the supervisor and consultant, questionnaires were administered between 20 and 83 percent using Cronbach alpha reliability is measured.

In this study, to analyze the data, a parametric test of paired observations (test t) is used. In addition to this test, Pearson correlation test is used. Parametric test requires assumptions about a society from which samples are taken. As the default in parametric statistics is assumed to be normal

distribution. Because this study was done with Likert scale to evaluate hypotheses and analyze specific questions related to t-test was used. Pearson's correlation coefficients to determine the relationship, type and direction of the relationship between the two variables used information technology and organizational structure.

Pearson correlation coefficient formula:

$$r \times y = \frac{n\,4\,xy - (4\,x)(4\,y)}{\sqrt{[\,n\,4\,x^2 - (4\,x)^2\,][\,n\,4\,y^2 - (4\,y)^2\,]}}$$

Data analysis:
1-demographics:

Table 1. Frequency of Sex Participants

Sex	frequency	percent
Female	57	78
Man	16	21.9
Summation	73	100

According to Table 1, 57 of the 73 respondents to the questionnaire, 78% of women and 16 were men from this sum equal to 21.9

Table 2. Frequency distribution of educational level of respondents viewed

degree of education	Frequency	percent
Associate Degree	3	4.1
BS	50	68.4
Graduate	12	16.4
No reply	8	10.9
Sum	73	100

The top of the 73 sets of 3:4.1 percent diploma, 50% of experts and 12 times with the 68.4, 16.4 of graduate and 8 others gave questionnaires unanswered. The highest number of bachelors and associate degrees are the lowest number has.

2. General information

Table 3. The frequency of the observed distribution of daily use of the Internet

The use of the Internet	Frequency	percent
Less than 5 hours	10	13.6
5 to 10 hours	35	47.9
More than 10 hours	28	38.3
Sum	73	100

According to the table above, 10 individuals and 13.6% less than 5 hours of Internet use, 35 times to 47.9% between 5 and 10 hours of Internet use, 28 against, with 38.3% of respondents more 10 hours of internet use. The lowest frequency of less than 5 hours, 5 to 10 hours most frequent use of the internet.

Answering the research questions

What impact on the IT aspects of organizational structure (complexity, formalization, centralization, the organizational staff) Gilan Province's public libraries ?

Table 4. Frequency distribution percentage to measure the dimensions of information technology and organizational structure

	options	much	too	a bit	little	very little	Total
Information Technology	Abundance	193	297	473	1502	1819	4599
	Percent	4.19	6.45	10.28	32.65	39.55	100.0
Organizational complexity	Abundance	56	133	138	160	24	511
	Percent	10.9	26.0	27.0	31.3	4.6	100.0
Organizational recognition	Abundance	18	28	96	157	212	511
	Percent	3.5	5.4	18.7	30.7	41.4	100.0
Organizational focus	Abundance	29	80	310	263	48	730
	Percent	3.9	10.9	42.4	36.0	6.5	100.0
The ratio of corporate staff	Abundance	41	34	79	154	57	365
	Percent	11.2	9.3	21.6	42.1	15.6	100.0

According to Table 4 for a large number of IT Index 4599 is 58 questions and 7. No. 3321, 490 more than average and lower than average. Too much had the highest rate option that is 39.55%. So IT has a major impact on the organizational structure of public libraries in the province of Gilan. 7 511 questions to the complexity of a large number of organizations. 184 more than the average and 189 less than the average. The highest rate with 31.3%, which represents a large choice of high complexity in the organization. 7 questions for the enterprise recognizes 511 is plenty. 369 more than the average number is 46 less than the average. Very high maximum frequency options (212), and the percentage is 41.4%, which indicates a high official in the organization. The number 730 is a lot of organizational focus for 10 questions. As we see 109, 311 more than average and lower than average. Options approximately the highest frequency (310) and the percentage of 42/4%, which shows that the respondents to focus on the average scores of organizational structure have. 5 questions for the organization of a large number of personnel is 365. As we see 211 more than the average number is 75 less than the average. High maximum frequency options (154) and percentage 1/42 respectively. This shows that the respondents of the impact of IT on the organization's staffing ratios high. IT major impact on aspects of organizational structure (complexity, formalization, centralization, the organizational staff) Gilan Province's public libraries, and recognizes the greatest

impact on the organization.

Study hypotheses

Between the use of information technology and organizational structure (centralization, complexity, formality, rather than institutional staff) and there is a significant relationship between organizational performance.

Pearson correlation coefficient to calculate a correlation between two variables, each normally distributed with relative scale or distance are used. The coefficient values between -1 to +1 is included.

Positive values of the coefficient indicates that two variables change in one direction, and vice versa if it is negative correlation means the variables change in the opposite direction each other.

Student t- test one sample

The test is to compare the average variable constant, is designed. The hypothesis of the study are as follows:

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

As well as one sample Student's t- test statistic is defined as follows:

$$T = \frac{\bar{X} - \mu_0}{S/\sqrt{n}}$$

In this respect S, the standard deviation of the sample, and n the sample size is the average value μ_0 of the premise H_0.

Table 5. Correlation Dimension Information Technology and Organizational Structure

Variable name	The value of p	T-test statistics	SD	The mean	Sample size	CI 95%	
						upper bound	Lower bound
Information Technology	0.000	12.808	0.65027	3.9748	73	1.1265	0.8231
Complexity	0.437	-0.782	0.79115	2.9276	73	0.1122	-0.2570
Formalization	0.000	12.090	0.71498	4.0117	73	1.1786	0.8449
Centralization	0.000	5.584	0.45689	3.2986	73	0.4052	0.1920
Of personnel	0.000	4.184	0.77758	3.3808	73	0.5622	0.1994
Organizational Structure	0.000	6.909	0.50046	3.4047	73	0.5215	0.2879
Operation	0.000	30.507	0.34004	4.5355	73	1.6358	1.4352

At 95 percent-value obtained for each variable compared with 0.05 for all variables except for the fact that this amount of complexity less than the margin of error (0.05), the hypothesis H_0 is rejected. Given that the confidence interval is positive, indicating higher than the average of (at

least the desirability of) the structure and variables. Due to the complexity of the p- value greater than the margin of error (0.05), the H_0 hypothesis is not rejected. Given that the confidence interval includes zero indicates a moderate level of complexity is variable. Among the variables using information technology and organizational structure dimensions (complexity, centralization, formalization, the organizational staff) and there was a significant correlation between organizational performance.

CONCLUSION

Findings from the study showed that for all variables, complexity, centralization, formalization, there was a significant relationship towards organizational staff. At 95 percent p- value obtained for each of the variables compared with 0.05, given that this amount is less than the margin of error for all variables except for the complexity of the desired (0.05), the H0 hypothesis is rejected. Given that the confidence interval is positive, indicating higher than the average of (at least the desirability of) the structure and variables. Among the variables using information technology and organizational structure dimensions (complexity, centralization, formalization, the organizational staff) there was a significant correlation. Given the positive correlation coefficient of correlation between the two variables of information technology and organizational structure. Between the use of information technology and organizational performance has a significant relationship.

The results showed that public libraries Gilan moderate use of information technology. IT has a huge impact on the organizational structure of public libraries in Gilan province, especially in the later recognition of the organization.

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