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Prioritizing Human Barriers in Developing Management Information System (MIS) Application in Decision Making Process in Youth and Sport Organizations

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ABSTRACT

The purpose of present study was identifying and prioritizing human barriers of developing management information system (MIS) application in managers` decision making process in Esfahan province`s Youth and Sport organizations. The study sample included all top and middle managers of Youth and Sport organizations in Esfahan province which was considered 104 managers. The questionnaire was derived from results of studies by Moradi Ali Abadi et al (2012), Moradi Ali Abadi (2011), Mahdi Zade (2011) and Ghazi Zade Fard (1385) and other related scientific references and interviews with Sport Management outstanding teachers. The overall results show that among human barriers, non participation of managers and users in system design, rejection of system executives (managers), resistance against change and inappropriate understanding of managers from software and information systems have the highest priority followed by other barriers studied.

Keywords: management information system, development barriers, Youth and Sport organizations, Esfahan Province.

INTRODUCTION

One of the names of current period of human life is age of information and communication due to great attention and extensive activities which are occurring these days for collecting, processing and transferring information. Managers need to know, collect, analyze, organize and exchange information related to their tasks, considering three important factors, speed, accuracy and cost that exist in every functions in today`s world (Taleghani, 2003).

Survival and growth will not be possible except with knowledge, awareness and science which are obtained in the way to information. This is the essence driving people and organizations to move toward information technology (Banaian, 2008).

Information technology apart from hardware, like foundations and needed tools, needs software too. This software is considered information systems in an organization. Systems can be open or controlled closed loop (Mc Leod, 1994). Their difference is in the feedback they provide.

We can compare information system role to heart in the body. Information is blood and information system is the heart. Heart has the responsibility of delivering clean blood to body parts including brain. Heart will work faster if needed and meet body requirements (Ranji, Jifroodi, 2009). MIS has the same role in the organization. This system guaranties collection and processing of suitable information from different sources and will be sent where they are needed. Regarding that, on the one hand, information systems popular in developed world organizations service managers, and on the other hand, it can be observed practically that these tools are not used as properly as they should be, the purpose of present study is to analyze human barriers of developing management information system in Youth and Sport organizations in Esfahan province.

We can describe reasons for need to decision-support information systems as follow (Srinivas, 2011):

- Human thought limitations for processing and storing
- Knowledge limitations

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- Cost reduction
- Technical support of decision
- Support of decision quality

Information systems have different kinds which have evolved over time. These systems include (Rockart & Delong, 2008):

- Transaction process system (TPS)
- Management information system (MIS)
- Decision support system (DSS)
- Group decision support system (GDSS)
- Excellent management information system (EIS)
- Expert systems (ES)
- Artificial neural networks (ANN)
- Geographical information systems (GIS)

Among these, the role of management information systems is very important. Considering that information systems allow daily information management for daily decisions, they have a special role and position in today`s world of change. These systems focus on organizations` operational efficiency.

MATERIALS AND METHODS

Considering the nature, study method is descriptive and data are collected by survey. Study sample includes all top and middle managers of Youth and Sport organizations in Esfahan province. In this regard, after identifying managers in Youth and Sport organizations and their sub-divisions, the study sample was 104 managers. From these distributed questionnaires 91 questionnaires were returned to researcher based of which data were analyzed.

In present study we used library studies for theoretical and primary information. . The questionnaire was derived from results of studies by Moradi Ali Abadi et al (2012), Mahdi Zade (2011) and other related scientific references and interviews with Sport Management outstanding teachers. After collecting questionnaire from a pilot group including 30 questionnaires Cronbach`s alpha coefficient was equal to 0.79 that shows desired reliability of designed questionnaire. Face and content validity of questionnaire were confirmed by Sport Management outstanding teachers.

RESULTS

Based on library studies and using scientific references related to subject and interviews with outstanding sport management teachers, human barriers for developing management information system (MIS) application in managers` decision making process were classified as follow:

- Managers` lack of knowledge that what they want exactly from information
- System designers` lack of accurate understanding of managers` requirements
- Managers` lack of knowledge and understanding about how to collaborate with system design team
- Managers and users` lack of participation in system designation
- Managers` inappropriate understanding from software and information systems
- Many analysts and programmers (designers) are not familiar with new systems
- System executives (managers) non compliance and resistance against change
- Loss of required accuracy in collected data
- Loss of motivation in managers` information system
- Lack of belief and insight in top and middle managers for using information systems based on computers instead of manual systems
- Managers` concern about reduced information protection factor in organization

- Lack of experience in managers and lack of meritocracy system for directors attendance
- Lack of satisfaction about welfare state

Table1 provides results of KS test for data related to human barriers.

Table1. *KS test results regarding normal distribution of human barriers data*

Variable	KS	
	Sig	Z
Human barriers	0.473	0.845

Diagram 1 shows frequency distribution of data related to human barriers.

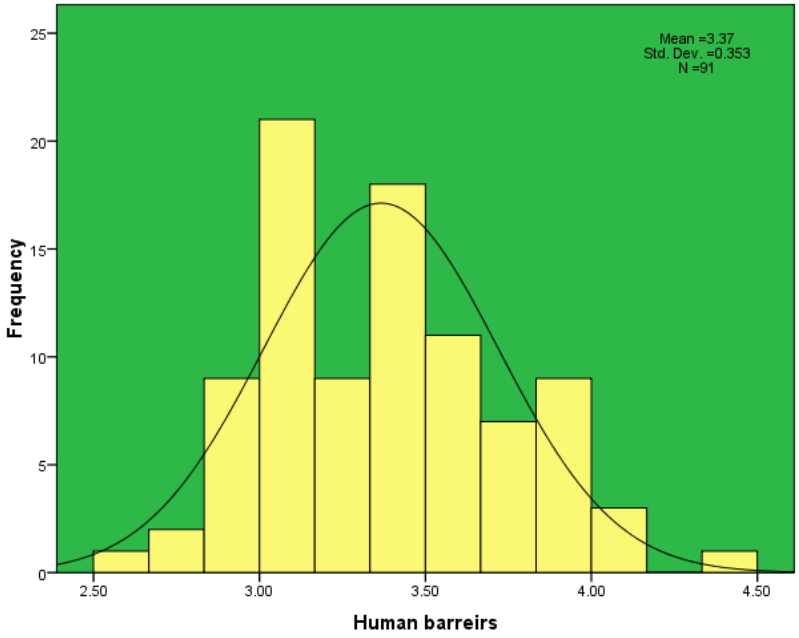

Figure1. *Frequency distribution of human barriers data*

Regarding results and reported significance level in table (1) and diagram (1), data distribution was normal and parametric statistical tests can be used for data analysis.

Table 2 presents results of univariate t test for comparison of each human barrier average with mean value of "3".

Table2. *univariate t test results for each human barrier with mean value of "3"*

Human barriers	Assumed average	Average	Standard deviation	Standard deviation bias	Average difference	T	Sig
1	3	3.75	1.01	0.10	0.57	5.38	0.000
2	3	2.84	1.46	0.15	-0.15	-1.00	0.160
3	3	2.73	1.16	0.12	-0.26	-2.16	0.017
4	3	3.89	1.16	0.12	0.89	7.26	0.000
5	3	3.89	1.16	0.12	0.89	7.26	0.000
5	3	3.61	1.36	0.14	0.61	4.30	0.000
6	3	3.38	1.27	0.13	0.38	2.88	0.003
7	3	3.83	0.92	0.09	0.83	8.64	0.000
8	3	3.24	1.24	0.13	0.24	1.85	0.033
9	3	3.57	1.26	0.13	0.57	4.30	0.000
10	3	3.49	1.15	0.12	0.49	4.07	0.000
11	3	3.27	1.13	0.11	0.27	2.30	0.012
12	3	3.12	1.59	0.16	0.12	0.72	0.236
13	3	3.17	1.41	0.14	0.17	1.18	0.120

Results of table 2 shows that average of respondents opinions in human barriers: Managers` lack of knowledge that what they want exactly from information, Managers and users` lack of participation in system designation, Managers` inappropriate understanding from software and information systems,

Many analysts and programmers (designers) are not familiar with new systems, System executives (managers) non compliance and resistance against change, Loss of required accuracy in collected data, Loss of motivation in managers` information system, Lack of belief and insight in top and middle managers for using information systems based on computers instead of manual systems, Managers` concern about reduced information protection factor in organization are significantly higher than mean value of 3 ($P<0.05$).

Table 3 presents Friedman test results for human barriers. In this table only barriers that are higher than mean value of 3 in table 3 and univariate t test are ananlyzed.

Table3. *Friedman test results for human barriers*

No	Human barriers	Averag e rank	Rank
1	Managers` lack of knowledge that what they want exactly from information	4.86	5.5
4	Managers and users` lack of participation in system designation	5.88	1
5	Managers` inappropriate understanding from software and information systems	5.27	3
6	Many analysts and programmers (designers) are not familiar with new systems	4.77	7
7	System executives (managers) non compliance and resistance against change	5.54	2
8	Loss of required accuracy in collected data	4.28	9
9	Loss of motivation in managers` information system	5.04	4
10	Lack of belief and insight in top and middle managers for using information systems based on computers instead of manual systems	4.86	5.5
11	, Managers` concern about reduced information protection factor in organization	4.49	8
Chi^2			28.1
Freedom degree			8
Significance level			0.000

As can be seen from table (3), considering Chi^2 and significance level obtained, the assumption that nine defined barriers are the same will be rejected and it is characterized that these barriers have different effects on developing management information system (MIS) application in managers` decision making process.

In this regard, among human barriers, Managers and users` lack of participation in system designation, System executives (managers) non compliance and resistance against change, Managers` inappropriate understanding from software and information systems, Loss of motivation in managers` information system are the first priority followed by other barriers.

DISCUSSION AND CONCLUSION

Different definitions have been provided for information systems. In most of them information systems are considered collection of people (users, leaders, designers), data, methods, software, hardware and tools. Based on this definition people or human are considered the main component of information systems (Gorden et al, 2002). In the case that human factor do not fulfill the requirements, we should be suspect to efficacy of information systems. Due to the importance of this factor in every stages of developing and appliance of information systems, that is possibility, planning, requirement analysis, designing, programming and constructing, maintenance and development, studying this subject is very important, especially that human footprints can be found in other issues and problems about application of management information systems and understanding this subject can be great help for knowing these systems. Since there are three groups of people in designing, using and application of management information systems:

1) Main users of systems that are managers
2) Designers, programmers and constructors of systems
3) Leaders or the ones, who send, collect, prepare and feed information to systems and operators (Manian et al, 2008).

Characteristics of these people are effective in increasing system efficacy. In addition, information systems in organizations facilitate optimal application of two basic factors, human and information, in organization. There will be optimal using of other factors like primary materials, services, energy, machinery, equipments, tools and constructions.

Ghazi Zade Fard (2005) says that the problem which usually occurs in management information system installation in governmental organizations in Iran is lack of right communication between analysts (designers) and users (managers). Managers usually have little knowledge about computers and information systems and analysts have little knowledge about organizations issues. This cause designed and performed system not to meet real requirements of managers which is consistent with the first introduced barrier in this paper.

Popzan et al (2013) provide their study results, human factors, compatibility with MIS application and compliance of MIS application have the highest correlation with management information system application which is consistent with present study. Non compliance of management information system by managers and resistance against change is one of the important barriers in this study which is consistent with results of Abdollahi Pour (2011) and is not consistent with results of Popzan et al (2011), since in their study there is no significant correlation between information technology application and management information system, whereas believing in efficacy of this system is considered one of the most important factors in its application in Abdollahi Pour study (2011).

Also, results of Murdick and Ross (1991) study showed that managers show resistance against using management information systems which is consistent with present study. Resistance against installation and application of MIS in managers of Youth and Sport organizations is rooted in worrying about losing job, earning reduction, information power reduction and worrying about problems concerning learning new carrier.

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