

Analysis of databases appropriation in the academic staffs of Iranian Universities of Medical Sciences according to the social appropriation approach

Mahmoud Keyvanara, Mozaffar Cheshmeh Sohrabi¹, Firoozeh Zare², Akbar Hassnazadeh³, Parisa Malekahmadi⁴

Department of Health Services Management, Social Determinate of Health Research Center, Isfahan University of Medical Sciences,

¹Department of Knowledge and Information, School of Educational Sciences and Psychology, University of Isfahan,

Departments of ²Medical Information, ³Epidemiology and Biostatistics, and ⁴Medical Education,

Medical Education Research Center, Isfahan University of Medical Sciences, Isfahan, Iran

ABSTRACT

Background: Numerous researches conducted on about the quality of perception of media messages shows that the people are not passive receivers but they have the ability of understanding, interpreting and accepting or rejecting messages. In order to make clear the relationship of information and communication technologies with social changes and to gain a broader vision from this scope, sociological theories about information and communication technologies' usage, especially appropriation approach can be very useful. So, keeping in mind the important role of Databases in the qualitative expansion of education, research, diagnosis, remedy and medical services presentation, this research was carried out with the aim of status determination of databases appropriation in the academic staffs of Iranian Universities of Medical Sciences according to the social appropriation approach in 2012.

Materials and Methods: This is an applicative research of an analytical-descriptive type, which was carried out by measurement approach. The statistical society of this research was composed of the academic staffs of the Iranian Universities of Medical Sciences in 2012 and finally 390 academic staffs were selected according to the Cochran's formula were selected. The research tool are searcher's made questionnaire, which was composed of nine separate parts. Its validity was accepted by the specialists and its reliability was calculated and found to be 0.961 by Cronbakh's alpha. **Results:** Database appropriation score in the academic staffs of Iranian Universities of Medical Sciences with 65.020% was in a good status and data bases dis appropriation score with 71.484 was in a high status.

Conclusion: According to the findings of this research, Librarians and politicians in this scope-with determination of the academic staff's positive and negative points in usage

and appropriation would be capable of accurately diagnosing and analyzing the chances and challenges of the academic staffs members in using databases and would also be capable of achieving solutions and appropriate catalyzers of prolific usage and appropriation of databases.

Key words: Academic staffs, databases, Iranian Universities of Medical Sciences, social appropriation

Address for correspondence: Ms. Parisa Malekahmadi, PhD Candidate, Department of Medical Education, Medical Education Research Center, Isfahan University of Medical Sciences, Isfahan, Iran. E-mail: parisa.malekahmadi@gmail.com

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INTRODUCTION

For the past 40 decades, various researches have surveyed the quality of media messages' perception. The results of these researches shows that people are not passive receivers but they have the ability of understanding, interpreting, and accepting or rejecting messages.^[1]

In order to make clear the relationship between information and communication technologies and social changes and in order to accept a broader vision in this scope, sociological theories about information and communication technologies' usage, especially three famous innovation, diffusion and appropriation approaches can be very useful. Rogers in the diffusion approach proposes hypothesis that a new technology diffuses automatically or in a planned manner necessarily attached with social changes. In fact diffusion approach studies innovation distribution through its' acceptance rate and innovation approach survey technological tools' production time. With due attention to this point that these approaches methodologically have been a part of quantitative approaches, not capable of explaining some problems such as reason so for mobilizations' rate dispersion and because of this reason, appropriation approach has been created for the conception of what do people do with technology and for answering to the limitations of these two approaches.^[2]

Breton and Proulx pointed some stipulations in order to be realize a tool's appropriation, the first being that, the user has the minimum cognitive and technological sovereignty. Second, the tool is meaningfully inserted in the individual's daily-life. Third, this sovereignty and insertion lead the user to the creative uses of the tool and finally, in order to promote tool's appropriation to social appropriation, the user must have enough control on the spokesmen who are his representatives in the innovation market. Researches, which occurred on the scope of appropriation scope, analyses technology usage from user vision and also the technical, cognitive and social dimensions of technology.^[3]

In a similar manner Massard said that appropriation is a process in an organized phenomenon that developed in the lapse of time.^[4] This process according to Proulx vision is both an individual process that depends on the user's characteristics and also a social process that declare the necessity of new structures in an organization.^[5]

According to the research by Carroll, Howard and Vetere a technology which has arrived in a work space has changed over along-time from the technology as designed. Technology shapes the user's activities and is influenced by the user's needs. This altered technology (technology as used) is the resultant of the appropriation process that includes user's competition, evaluation and composition of technology with personal needs based on perceptions and other various impressions. The first level of the appropriation model, includes of technology introduction and adopting a decision based on technology adoption or non-adoption; Second

level includes of technology adoption, deep in-depth use of technology, evaluation and technology conformity in order to agreement with needs and in some cases also includes non-appropriation; third-level includes of users' persistence on technology usage, appropriation and demonstration. Technology appropriation model, evaluates technology deformation from the stage of formation in the technology designers' mind (technology-as-designed) to meet to a level in which the technology is used in a current manner (technology-in-use). The essence of this change, is named in as the appropriation process.^[6]

Nowadays, amalgamation of the information and communication technologies amalgamation in education is completely accepted by educational systems all over the world and usage of information technology for gaining knowledge and skill is an essential factor in educational institutions. Benefits occurring on information technology appropriation in the working sphere are based on Santos and Sussman vision, just gained when this technology used in an appropriate level. So, if influential factors on of the user's adoption of technology are identified and realized, there is an opportunity of better technology designing and assembled assembling the technology better and in this manner, the possibility of user's adoption and technology appropriation is increased.^[7]

Better development and adoption of a technology needs something more than mere adoption. Appropriation process basically has deep socio-economical influences with regard to mere adoption. Innovative and long-term influences occurred when the users appropriates the technology, takes it as his owns and integrates it in his life. Appropriation tries to illustrate the actual use of technology and because the actual use of technology in diffusion researches is broadly neglected, there is a necessity of more studies and deeper realization in order to be certain of the real appropriation of technology assembled.^[8]

Scollo's research results showed that the collective communicational media was affected by social interactions.^[9] Dix focused on designing for appropriation purpose.^[10] Mendoza, Stern, and Carroll, by gathering the appropriation process with along with time showed that non-appropriation or dis-appropriation of a technology may occur along time after its adoption. Concentrated and supplemented support and continues educational accessibility in a person-to-person contact format may be essential factors in the conductive usage and avoidance of technology rejection in long-term technology usage.^[11] According to the results of a study by Isaac *et al.*, technology appropriation by individuals broadly adopted.^[12] Habib, Caraguel and Baets showed that successful technologies conducted by groups which are adopted the technologies rapidly.^[13] Wired up resented the personalization discussion.^[14] Husse not pointed to structure and transfer off ended essence.^[15] Urrea introduced 3 level of technology appropriation (usage, application appropriation, and technology appropriation as a learning tool).^[16] Hemmi and Bayne referred to faculties' predilection in acceptance of new technologies and adoption

of their influences. In addition, results indicate that students and faculties as collaborative and challenging environments have important roles on higher education.^[17] Salovaara has stated that in the perception of technology, mental model and curiosity, appropriate technology, learning from others, having a program of future uses, materialization of the usage of technology and technology usage in unique approaches are the most important factors.^[18] The connection between adoption and appropriation has been studied by Zejda.^[19] In Salovaara *et al.*, research, creative usage discovery by individuals is more common than learning from others.^[20]

At present, one of the main challenges that the higher education of Iran has envisaged is increased quantitative and qualitative usage and application of information and communication technology by universities' faculties, so that universities and scientific research centers try to present solutions in order to get quantitative and qualitative improvement in the competences and capabilities of their faculties in the usage, application and appropriation of these technologies. One of the basic needs of faculties is access to information and one of the technologies that play an important role in this is databases. With regards to position and importance of these informational resources and enormous expenditures suffered by universities, arrival of these databases to faculties' everyday life and appropriation of these resources according to increased quantitative and qualitative educational and research activities is important and needs minute and scientific cognition and planning.^[21] Therefore the aim of this research was to implement the databases appropriation in the academic staffs of Iranian Universities of Medical Sciences according to the social appropriation approach in 2012.

MATERIALS AND METHODS

The present research is a descriptive-analytical applied research. The statistical society is composed of type one medical universities' faculties in 2012, including Tehran, Shahid beheshti, Shiraz, Mashhad, Isfahan, Tabriz, Ahvaz, Kerman and Kermanshah medical universities, which was composed of 5830 faculties and according to the Cochran's formula, 390 faculties were selected for the survey as sample group. The method of sampling is randomly categorized method consistent with society mass. The questionnaires were sent to the sample group via their E-mail address.

The research tool was a researcher made questionnaire composed of 9 separate parts namely technical mastery, cognitive mastery, everyday use, creative use, attractors and repellents, enforcements and weakening factors, appropriation criteria, dis-appropriation criteria and factors which was affected appropriation in nine set of closed questions in the above mentioned categories and 6 open questions in creative use, attractors and repellents, enforcements and weakening factors, appropriation criteria, dis-appropriation criteria and factors which affected appropriation. Validity of the questionnaire was validity confirmed by sociology,

information and communication sciences and library and information sciences experts and its reliability was calculated to be 0.961 by Cronbach's alpha through a pre-test among 30 faculties in the research society in response to dispersion principle in the pre-test society.

Responders' scores were determined by the 6° spectrum. Repellents and weakening factors scores are the reverse of attractors and enforcements scores. Each of the responders received 11 scores, nine of them from each section and two of them from the sum of seven primary compasses in the shape of appropriation and two terminal compasses in the shape of dis-appropriation of databases. Research data were analysed using SPSS software version 20.

RESULTS

About 46.6% of responders were men and 35.4% were women. Majority of the responders in the research sample add an assistant degree (66.4%), followed by associates (18.2%), educators (11%) and professors (4.4%) containing less numbers of research sample. Responders in the age group of 41-50 years old (56.7%) are the largest in number among research sample. Faculties with age above 50 years (24.6%) and faculties in the range of 31-40 years old (18.7%) are the lowest in number among all the age groups of the research sample. The age range of the faculty' members are between 31 and 59 years and their mean age is 45.47. Responders with services of 11-15 years (26.4%) and 6-10 years (24.6%) are more in number, responder's with 1-5 years of service (8.5%) and higher than 25 years (5.9%) are less in number in the record of service record of service. Faculties' record of service is between 1 and 28 years and their mean record of service was 14.55 years. Medical schools (30%) are the biggest and new technologies schools (1.3%) are the smallest samples on the basis number of faculty categories. The Tehran University of Medical Sciences (30%) and Kermanshah University of Medical Sciences (4.9%) are the smallest samples on the basis of university categories.

The mean scores of the factors are as follows: (i) Technical mastery of databases 44.61%. (ii) Cognitive mastery of databases 71.28%. (iii) Use of databases in everyday life 66.02%. (iv) Creative use of databases 56.70%. (v) Databases attractors 82%. (vi) Databases repellents 17.99%. (vii) Factors which reinforced the appropriation process of databases 79.88%. (viii) Factors which weakened the appropriation process of databases 20.11%. The mean scores of appropriation criteria and dis-appropriation criteria are 80.06% and 79.62% respectively. The mean score of factors which affected appropriation is 65.83%. Total databases appropriation mean score among the faculties of Medical Universities of Medical Sciences is 65.02% and databases dis-appropriation mean score is 71.48% [Table 1].

CONCLUSION

Scollo's results confirms this research's results about the role of social interactions and social learning.^[9] Focused on

Table 1: Appropriation and dis appropriation mean and standard deviation among responders

	Mean	Standard deviation
Appropriation		
Technical master	44.61	10.80
Cognitive master	71.28	8.44
Use of databases in everyday life	66.02	9.28
Creative use	56.70	7.24
Attractors	82	4.66
Repellents	17.99	4.66
Reinforcers	79.88	4.32
Weakeners	20.11	4.32
Appropriation criteria	80.06	8.03
Appropriation	65.07	6.70
Dis-appropriation		
Dis-appropriation criteria	76.62	5.71
Factors which were affected appropriation	65.83	6.33
Dis-appropriation	71.48	3.69

designing with potential of creative usage confirms This research.^[10] Importance of education confirms Mendoza, Stern, and Carroll results.^[11] As the results of the study by Isaac *et al.* State broad technology appropriation by individuals is confirmed in this research.^[12] Habib, Caraguel and Baets alongside Zejda confirmed this research in low adoption as a dis-appropriation criteria.^[13,19] Wired up results which presented the personalization are similar to the results of this research in creative usages and attractors.^[14] This research agrees with Husse not in structure and transfer offended essence.^[15] Participant levels introduced by Urrea are as the same as technical mastery, cognitive mastery and merging this usage in everyday life.^[16] Results confirmed Hemmi and Bayne research about this kind of usage's important role on higher education.^[17] In Salovaara *et al.*, Research, creative usage discovery by individuals is more common than learning from others and inconsistent with this research.^[20]

According to the findings of this research Librarians and Politicians in this scope with determination of academic staff's positive and negative points in usage and appropriation would be capable of accurately diagnosing and analysing the chances and challenges of the academic staffs in using databases and also would be capable of achieving solutions and appropriate catalyzers of prolificus age and appropriation of databases.^[22]

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