Indian Journal of Fundamental and Applied Life Sciences ISSN: 2231– 6345 (Online)
An Open Access, Online International Journal Available at www.cibtech.org/sp.ed/jls/2015/03/jls.htm
2015 Vol. 5 (S3), pp. 232-236/Asghari and Ghahramani
Research Article

IMPACT OF INFORMATION TECHNOLOGY (ELECTRONIC SALES) ON REDUCTION OF OPERATIONAL COSTS IN WEST AZERBAIJAN'S DEPARTMENT OF WATER AND WASTEWATER (WWC)

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ABSTRACT
The aim of this study was to determine the impact of information technology (electronic sales) to reduce operating costs over Water Resources and Sewage Organization of West Azerbaijan, Iran. The population includes the employees of this organization that their number was 984 employees. Sample of 222 employees has achieved by using the Cochran formula that is selected by stratified random sampling method. Information technology and reducing operating costs questionnaires were used as data collection tools which after assessing its validity and reliability had been offered to target population. Questionnaires, data collection and data summarization, classification and using descriptive and inferential statistics (Kolmogorov-Smirnov-Pearson by SPSS) were analyzed. Results indicate that information technology (e-selling) is affective over the operating costs of water resources and sewage organization of West Azerbaijan. Furthermore, educational, technical, economic, managerial and man-made factors are affective to reduce operating costs of water resources and sewage organization of West Azerbaijan.

Keywords: *Cost Reduction, Economic, Technical, Electronic Sales*

INTRODUCTION
Increasing progressions and advancements of information technology in recent decade has led to increased competitions between organizations. And also having access to information technology has become the main factor of survival in this competitive environment. Scholars inform us from more structural changes which could change the current era to the most influential era in human history (Movahedi & Abbasi, 2004). Several estimations indicate that from the beginning of 1980s, about half of total investments in organizations were dedicated to information technology (Westland and Clark, 2000). Therefore, information technology is known as powerful and mighty element for social and economic changes and evolutions.

During the recent years, we have seen that many businesses have started to use internet for their marketing. This process includes sales and purchases of goods and services. Currently internet sales have dedicated a large portion of sales to it and already there are many retailers who are participants of this group. Sellers who merely use internet sales are growing and millions of people have respectively reached online sales (Arabi & Sarmad, 2003). One of the advantages of internet shopping is the vast range of choices among goods and services. The option of customer orientation in internet sales is unlike any other type of marketing and it cannot be even found in largest physical markets. Every day millions of people perform internet shopping. This type of shopping is easier than looking for a specific commodity in physical shops and markets. Sellers are interested in finding people who pay higher prices for commodities and internet shops provide them with this possibility. Online collections of art works manifest a successful example of this capability (Jafari *et al.,* 2009).

In present status of global economy, undoubtedly the necessary element for survival of service providing and production firms and organizations is being equipped with strategic management systems as well as production of goods and providing services with competitive prices and also in time responding to opportunities. Service organizations are inevitable to balance their movement through reduction of operational costs and reducing the amount of locked up capital and paying attention to customer orientation in order to continue their economic life (Bajaj, 1998). There are several different approaches

and methods proposed for reduction of operational costs and before any attempt, it is necessary to identify reducible elements. One of the impactful elements in rise of costs is the gap between the customer and organization and the large space between financial and technical systems (Ta'mimi, 2013).
The issue of reduction of operational costs is noticeable from two aspects:
a) When we attempt to obtain reduced operational costs through saving.
b) When we try to reduce operational costs through reducing the costs of resources, it means we use the same resources but at lower prices. For example in West Azerbaijan's WWC we buy a significant amount of P.E pipes for correction and development of water network but we are looking for a way to buy the pipes at a lower price. The first subject is related to the context of efficiency and it means that we are trying to expend less resources and produce with the same value or even at a higher value and in fact we are trying to improve our efficiency. The other is that in terms of inflation the rise of costs is inevitable and this issue is out of the control of manager and management board (Gol, 2002).
If the committee of operational costs is realized in west Azerbaijan's WWC, what will happen to its' social problems? In Iran the dominant management system is usually seen as the system of splurge and most importantly is that the government itself is also using a portion of these splurges. In fact if one day the real committee of providing services and producing goods and commodities without any splurging gets established, in addition to the fact that many of suspended jobs and suspended benefactions are removed, we will face a significant social problem as well, because our economic efficiency is low. And having low economic efficiency is accompanied by a social consequence which will absolutely show itself at some point and one of these consequences is the surplus of human resources. The government itself with its significant amount of splurge is considered as a great customer of splurge (Hashemi, 2002). With respect to provided content and also with respect to the significance of research, the present paper is aimed at determining the amount of effectiveness of information technology (online sales) on reduction of operational costs in West Azerbaijan's department of water and waste water (WWC).

MATERIALS AND METHODS

In terms of purpose the present research is considered as an applicable study and in terms of methods it is considered as a correlative descriptive research program. The population of this research project includes the entire employees of West Azerbaijan's department of water and waste water (WWC) as 984 individuals. For calculation of sample size the Cochran's formula was employed and through this formula the sample size was determined as 222 individuals. For the purpose of data collection, a researcher made questionnaire was used. In specific, for collection of data regarding information technology a researcher made questionnaire with 33 questions was used and also the questionnaire of reduction of costs according to the views of Allen and Mayer with 21 questions was used for collection of data regarding reduction of costs. The questionnaires' questions are adjusted based on a five degrees Likert scale. Validity of questionnaires was approved by a number of experts of educational management and also the reliability of these questionnaires was calculated as 82% through the application of SPSS software. In addition, the Kolmogorov- Smirnoff test, Pearson's correlation coefficient test and or Spearman's correlation test were used for testing research hypotheses.

RESULTS AND DISCUSSION

Results

First Hypothesis

Information technology (Online sales) is effective on reduction of operational costs in west Azerbaijan's department of water and waste water (WCC).

Table 1: Reporting bi-variable regression coefficients

p	F	R^2	R	Sig.	t	β	B	Intercept	Dependent variable	Independent variable
0/000	664/102	-0/716	-0/846	0/000	-25/770	-0/846	-/347	0/267	Operational costs	Information technology

Results of table 1 indicate that the value of R2 is equal to -0.716 and therefore it can be stated that approximately 72 percent of changes of dependent variable of operational costs are ready to be anticipated by information technology. On the other hand the value of beta coefficient signifies that if one unit of deviation is imposed on information technology, there will be a resultant of -0.85 units of deviation in the variable of operational costs these changes are in opposite directions and it means that through one's increase the other one decreases and vice versa. This coefficient is the result of research data and is not due to chance or measurement error because the F statistic is significant at 0.05. on the other hand meaningfulness and significance of F statistic indicates that there exists a linear relation between two variables. Therefore we conclude that the H1 hypothesis is accepted and the H0 hypothesis is denied.

Second Hypothesis

Educational elements of information technology (online sales) are effective on reduction of operational costs in West Azerbaijan's department of water and waste water (WCC).

Table 2: Reporting bi-variable regression coefficients

p	F	R^2	R	Sig.	t	β	B	Intercept	Dependent variable	Independent variable
0/000	105/462	-0/285	-0/534	0/000	-10/269	-0/534	-0/870	8/806	Operational costs	Educational elements of IT

Results of table 2 indicate that the value of R2 is equal to -0.285 and therefore it can be stated that approximately 29 percent of changes of dependent variable of operational costs are ready to be anticipated by educational elements of information technology. On the other hand the value of beta coefficient signifies that if one unit of deviation is imposed on educational elements of information technology, there will be a resultant of -0.53 units of deviation in the variable of operational costs these changes are in opposite directions and it means that through one's increase the other one decreases and vice versa. This coefficient is the result of research data and is not due to chance or measurement error because the F statistic is significant at 0.05. On the other hand meaningfulness and significance of F statistic indicates that there exists a linear relation between two variables. Therefore we conclude that the H1 hypothesis is accepted and the H0 hypothesis is denied.

Third Hypothesis

Technical elements of information technology (online sales) are effective on reduction of operational costs in west Azerbaijan's department of water and waste water (WCC).

Table 3: Reporting bi-variable regression coefficients

p	F	R^2	R	Sig.	t	β	B	Intercept	Dependent variable	Independent variable
0/000	474/145	-0/642	-0/801	0/000	-21/775	-0/801	-1/287	2/164	Operational costs	Technical elements of IT

Results of table 3 indicate that the value of R2 is equal to -0.642 and therefore it can be stated that approximately 64 percent of changes of dependent variable of operational costs are ready to be anticipated by technical elements of information technology. On the other hand the value of beta coefficient signifies that if one unit of deviation is imposed on technical elements of information technology, there will be a resultant of -0.80 units of deviation in the variable of operational costs these changes are in opposite directions and it means that through one's increase the other one decreases and vice versa.

This coefficient is the result of research data and is not due to chance or measurement error because the F statistic is significant at 0.05. On the other hand meaningfulness and significance of F statistic indicates that there exists a linear relation between two variables. Therefore we conclude that the H1 hypothesis is accepted and the H0 hypothesis is denied.

Fourth Hypothesis

Economic elements of information technology (online sales) are effective on reduction of operational costs in west Azerbaijan's department of water and waste water (WCC).

Table 4: Reporting bi-variable regression coefficients

p	F	R^2	R	Sig.	t	β	B	Intercept	Dependent variable	Independent variable
0/000	508/887	-0/658	-0/811	0/000	-22/559	-0/811	-1/213	3/703	Operational costs	Economic It elements

Results of table 4 indicate that the value of R2 is equal to -0.658 and therefore it can be stated that approximately 66 percent of changes of dependent variable of operational costs are ready to be anticipated by economic elements of information technology. On the other hand the value of beta coefficient signifies that if one unit of deviation is imposed on economic elements of information technology, there will be a resultant of -0.81 units of deviation in the variable of operational costs these changes are in opposite directions and it means that through one's increase the other one decreases and vice versa. This coefficient is the result of research data and is not due to chance or measurement error because the F statistic is significant at 0.05. On the other hand meaningfulness and significance of F statistic indicates that there exists a linear relation between two variables. Therefore we conclude that the H1 hypothesis is accepted and the H0 hypothesis is denied.

Fifth Hypothesis

Humane and managerial elements of information technology (online sales) are effective on reduction of operational costs in west Azerbaijan's department of water and waste water (WCC).

Table 5: Reporting bi-variable regression coefficients

p-value	F	R^2	R	Sig.	t	β	B	Intercept	Dependent variable	Independent variable
0/000	614/974	-0/700	-0/836	0/0000	-24/799	-0/836	-1/000	3/768	Operational costs	Humane and managerial elements of IT

Results of table 5 indicate that the value of R2 is equal to -0.700 and therefore it can be stated that approximately 70 percent of changes of dependent variable of operational costs are ready to be anticipated by Humane and managerial elements of information technology. On the other hand the value of beta coefficient signifies that if one unit of deviation is imposed on Humane and managerial elements of information technology, there will be a resultant of -84 units of deviation in the variable of operational costs these changes are in opposite directions and it means that through one's increase the other one decreases and vice versa. This coefficient is the result of research data and is not due to chance or measurement error because the F statistic is significant at 0.05. On the other hand meaningfulness and significance of F statistic indicates that there exists a linear relation between two variables. Therefore we conclude that the H1 hypothesis is accepted and the H0 hypothesis is denied.

Discussion and Conclusion

Currently we are living in an era which has significantly more basic and fundamental changes compared to industrial evolution era and therefore, organizations are inevitable to move towards changes in order to sustain their survival and presence on the stage of competition. They are also inevitable to use and implement latest technological achievements for obtaining highest levels of productivity for their employees. In fact the role of information technology in this context is to create changes in organizations and institutes. These changes are generally changes in the essence and nature of works, integration of organizational tasks and transformation of competitive forces (Hashemi, 2014). The main purpose of this research was to determine the amount of effects of Information technology (online sales) on reduction of operational costs in west Azerbaijan's department of water and waste water (WCC). Also educational, technical, economic and managerial and humane elements are effective on reductions of operational costs

in West Azerbaijan's department of WCC. Therefore managers and authorities of department of WCC of province of Western Azerbaijan are recommended to pay special attentions to information technology and its dimensions and through this method they can reduce their operational costs.

REFERENCES

Arabs Muhammad and Soheil Sarmad (2002). Environmental barriers and provide suitable use of e-commerce in Iran. *Information Sciences* **18**(1).

Bajaj AG and Nag D Bjany (1998). *The Electronic Exchange of Information to E-commerce*, translated by Iraj Behnam Mujtahid, Institute of Business Studies and Research.

Firouz Heydari Jaee Farzali and Mir-Hosseini Seyed Mohammad (2010). Implementation of information technology in organizations and companies' IT's site.

Gol Mohamadi H (2001). Internet marketing, customer satisfaction. *Journal of Marketing* **11**.

Hashemi L (2013). Re-engineering human resources through information technology. Business partner site.

Jaffari Mustafa, Ghazanfari M, Ibn Alrasool Asghar and Alimirzaee P (2008). Evaluation of integrated IT approach. *International Journal of Engineering at the University of Science and Technology* (Spring) 116-107.

Movahhedi M and Abasi M (2003). *Introduced and modified Technology Acceptance Model presented at the International Management Conference*, Tehran.

Westland JC and Clark THK (2000). *Global Electronic Commerce* (Cambridge, MA: MIT Press).