The Effect of Technology-Task Fit on the Perceived Performance of Users of Public Libraries in Khuzestan Given the Mediating Role of Perceived Usefulness

Sedigheh Jalali

**MA. IT management.Department of Information Technology, Faculty of Humanities, Science and ResearchAhwaz Branch, Islamic Azad University, Ahwaz, Iran.
Email:sedigheh1988jalali@gmail.com**

Abstract

The present study investigated the effect of technology-task fit on the perceived performance of users of public libraries in Khuzestan given the mediating role of perceived usefulness. The present study is applied in terms of aim and descriptive-correlational in terms of method. The statistical population of this study included all 410 users of public libraries in Khuzestan. Since the size of most populations is large, it is impossible to perform statistical calculations based on the total members of the population. In such conditions, the researcher selects a sample. In other words, the sample should be estimated and selected so it can be representative of the whole population. The sample size of this study was estimated at 204 people using Cochran's formula. The results revealed that the path coefficient of the direct effect of technology-task fit on the perceived usefulness of users of public libraries in Khuzestan in using information technology is significant. Also, the path coefficient of the direct effect of perceived usefulness on the perceived performance of users of public libraries in Khuzestan in using information technology is significant. Also, the indirect effect of technology-task fit on perceived performance with the mediating role of perceived usefulness was significant.

Key words; Technology-task fit, Perceived performance, Khuzestan public libraries, Perceived usefulness

Introduction

Information technology studies, designs, develops, implements, supports, or manages computer-based information systems, especially software programs, and computer hardware (Tsekhmister, et al., 2021; Asfahani, 2022). The application of technology and technology in the organization is an example computerization of affairs (Mokrova, et al., 2021). There are 5 criteria to identify information technology. 1) Value transfer: the value that the organization obtains by using information technology. 2) Risk management 3) Strategy setting 4) Resource management 5) Performance measurement for the complete implementation of information technology, various standards such as "CABIT" prepared by the IT Governance Institute have been internationally accepted as a good model to control information (Mohseni, 2016).

Due to an increase in the use of the Internet among users, valuable information has increased in daily life. Thus, the number of Internet users is increasing. A part of this progress is related to the tendency of users to use online products, which is rapidly changing from traditional shopping to online shopping. Thus, the study of e-commerce has become a valuable and debatable topic for users. Hence, it has become a significant issue for researchers. Therefore, investigating and identifying related factors in this field is very valuable for researchers. Consumers' purchasing behavior is crucial for Internet products and services (Moradi, 2003).

People show certain behaviors affected by different physical and virtual factors when they make electronic purchases or visit a website in the web environment. Since the visitors of a site are people of different cultures, several factors affect their electronic purchases. For this reason, sellers

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sometimes face problems in identifying and understanding these behaviors. Lack of awareness of consumers' behavior can result in losing them. Although several studies have been conducted to investigate the behavior of this type of consumer, they are few models to investigate consumer behavior comprehensively and coherently. As stated above, the tendency for online purchasing has become an interesting issue since hedonism, saving time, convenience, cost reduction, reasonable prices, perceived usefulness, and satisfaction are the results of using online services.

This issue is also considered a valuable and strategic issue among business owners. A new competitive advantage is created for the organization when it invests in this dimension. Also, the tendency for continuous use is related to factors such as security, cost reduction, error reduction, and theft reduction. All of these factors can increase or reduce the tendency to continue using (Massah Ghotbabadi, 2013). Investigations on electronic consumer behavior suggest that when consumers obtain more satisfactory experiences regarding electronic shopping, they will trust the seller more, and thus they will become fixed customers (Maktabi Fard, 2016). Given what was stated above, the present study investigates the effect of technology-task fit on the perceived performance of users of public libraries in Khuzestan given the mediating role of its perceived usefulness.

Technology-task fit

Nowadays, the term "information technology" has a wide meaning and includes many aspects of computational and technological aspects. Its understanding has become easier than in the past. The information technology umbrella is quite large and covers many areas. Information technology specialist has various tasks, ranging from installing applications to designing complex networks and information databases. Information technology is closely associated with library and information science (Sleezer, 2012).

Perceived performance

Organizations employees always have a special interest in the organization based on the value and significance that an organization places on creating security, well-being, comfort, and confidence. This type of opinion and belief is called organizational support or perceived performance (Esmailpour, 2016).

Perceived usefulness

Generally, this structure refers to the perception of different people, including students, employees, managers, etc., about the usefulness of a method, tool, idea, structure, etc., such as an educational method or a management idea. Based on Vroom's (1982) theory, perceived usefulness refers to the possible outcomes that a person imagines as a result of implementing his or her idea (for example, promotion or monetary reward). Several researchers have defined this concept in different but similar ways. The common aspect of them refers to the possible outcomes of behavior from the individual's point of view. Perceived usefulness is the employee's perception of the relationship between the tasks performed and a personally valuable outcome (Arastoo, 2013). Clarifying and expanding these outcomes helps people to identify which of the choices they face in the surrounding environment can be a tool to achieve their valuable goals in the future.

In another definition, perceived usefulness is defined as the ability to predict the long-term outcomes of current activities. In other words, perceived usefulness is one's recognition of the usefulness of his or her current behavior to achieve valuable goals in the future. However, these definitions of perceived usefulness have been used in studies with different organizational areas. This concept has been proposed first in hard organizational aspects such as technology internalization models, and then in soft aspects such as organizational innovation (Etemadi, 2006).
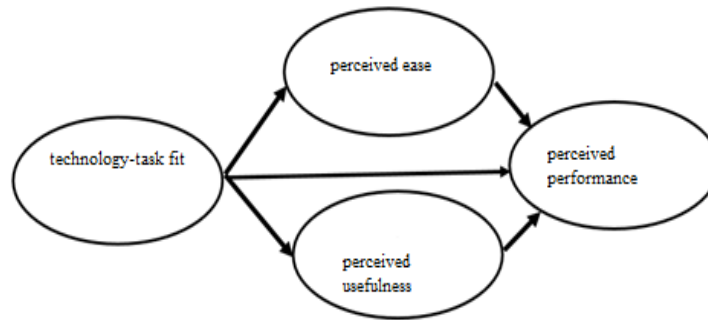
Methods

The present study is applied in terms of aim and descriptive-correlational in terms of method. The statistical population of the study includes the users of public libraries in Khuzestan. According to the statistics obtained from public libraries in Khuzestan, their number is 410. Since the size of most populations is large, it is impossible to perform statistical calculations based on the total members of the population. In such conditions, the researcher selects a sample. The sample should be estimated and selected so it can be representative of the whole population. The sample size of this study was estimated at 204 people using Cochran's formula.

Table 1: The results of Cronbach's alpha test

	Components	Scale and items	Cronbach's alpha
Performance	Performance	38-40	0.74
Usefulness	Usefulness	43-44	0.76
	task –technology fit	1-37	0.92

Results

Based on the results, regarding the subjects' gender, 70 (34.3%) were female and 134 (65.7%) were male. Regarding the subjects' age group, 3 (1.5%) were in the age group of less than 20 years, 19 (9.3%) were 21 to 30 years old, 107 (52.5%) were 31 to 40 years old, 66 (32.4%) were 41 to 50 years old, and 9 (4.4%) were 50 years and older. Regarding their employment history, 15 (7.4%) had an employment history of 5 years and less, 122 (59.8%) had an employment history of 6 to 10 years, 29 (14.2%) had an employment history of 11 to 15 years, 15 (7.4%) had an employment history of 16 to 20 years, 23 (11.3%) had an employment history of 21 to 25 years, and 15 (7.4%) had an employment history of 26 years and more. Regarding their employment status, 38 (18.6%) had an official employment status, 120 (58.8%) had a project-based employment status, and 46 (22.5%) had a contractual employment status. Table 1 shows the mean, standard deviation, and minimum and maximum scores of the variables (technology-task fit, perceived ease, and perceived performance) for the subjects.

Table 2: Descriptive results related to model variables of the study (n=204)

Variables	Mean	SD	Min	Max
technology-task fit	3.526	.63366	1.39	4.33
perceived ease	4.134	.78953	1.50	5
perceived performance	3.643	.74684	1.33	5

As shown in Table 2, the mean and standard deviation of the technology-task fit variable are 3.52 and 0.63, the mean and standard deviation of perceived usefulness are 4.13 and 0.78, and the mean and

standard deviation of perceived performance are 3.64 and 0.74, respectively.

Table 3: Descriptive results related to the dimensions of technology-task fit for the sample of employees (n=204)

Variables	Mean	SD	Min	Max
Quality	3.62	.669	1.83	5
Locating/finding capability	3.53	.66	1.80	4.80
Accessibility	3.75	.94	1.50	5
Adaptability	3.27	.802	1.50	4.50
Being timely in providing information	3.85	.97	1.50	5
System reliability	3.51	.887	1	5
Ease of working with the system	3.57	.755	1	5
Communication with the user	3.07	.860	1	5
Complexity of tasks	3.62	.66	1.83	5
Dependency of tasks	3.53	.66	1.80	4.80

As shown in Table 3, regarding the mean and standard deviation of the dimensions of the technology-task fit variable, the mean and standard deviation of the quality are 3.26 and 0.66, the mean and standard deviation of the locating/finding capability are 3.53 and 0.66, the mean and standard deviation of the accessibility are 3.75 and 0.94, the mean and standard deviation of the adaptability are 3.27 and 0.8, the mean and standard deviation of being timely in providing information are 3.85 and 0.97, the mean and standard deviation of the system reliability are 3.51 and 0.88, the mean and standard deviation of the ease of working with the system are 3.57 and 0.75, the mean and standard deviation of the communication with the user 3.07 are 0.86, the mean and standard deviation of the complexity of tasks are 3.62 and 0.66, and the mean and standard deviation of the dependency of tasks are 3.53 and 0.66, respectively.

Table 4: Correlation matrix between variables of the research model in the sample of employees

Row	Research variables	1	3	4
1	technology-task fit	1	**0.505	**0.717
2	perceived usefulness		1	**0.642
3	perceived performance			1

**0.001<P

As shown in Table 4, all correlation coefficients obtained for the research variables are significant at P<0.01 level.

Table 5 shows the fit indices of the proposed model and the fit indices of the final modified model.

Table 5: Comparison of the fit indices of the proposed model and the modified model

Fit indices	X^2	df	χ^2/df	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
Proposed (initial) model	217.628	1	217.62	0.75	-1.47	0.62	-1.41	0.59	0.62	1.03
Final modified model	2.207	1	2.207	0.99	0.94	0.99	0.98	0.99	0.99	0.077

Based on the results presented in Table 4, in the initial proposed model, the value of the root mean square error of approximation (RMSEA) index is 1.03, the value of the Tucker-Lewis index (TLI) is 0.41, and the value of adjusted goodness of fit index (AGFI) is -1.47. They indicate the poor fit of the proposed model. They show that the proposed model should be modified. After applying the modifications, the model was re-tested. The results presented in Table 5 show that in the modified model, the value of the chi-square index (χ^2) is 2.207), the value of χ /df is 2.207, the value of goodness of fit index (GFI) is 0.99, the value of adjusted goodness of fit (AGFI) is 0.94, the value of the comparative fit index (CFI) is 0.99, the value of the incremental fit index (IFI) is 0.99, the value of Tucker-Lewis index (TLI) is 0.98, and the value of root mean square error of approximation (RMSEA) is 0.077. They indicate an excellent fit for the modified model. Thus, the modified or final model has a good fit. In the modified model, the direct path of the perceived ease variable to employees' perceived performance was removed. The output of the modified model with AMOS is presented here.

Figure 2: Output in the standard mode of the proposed modified model by AMOS software

Table 6: Structural model: paths and standard coefficients related to direct effects between research variables in the final model

Path		Initial proposed model		Final modified model	
		β	P	β	P
task-technology fit ➡ perceived usefulness		0.537	0.001	0.537	0.001
task-technology fit ➡ perceived performance		0.527	0.001	0.528	0.001
perceived usefulness ➡ perceived performance		-0.125	0.001	0.375	0.001

According to the results shown in Table 6, all path coefficients related to the final modified model are significant.

Table 7: Standard and non-standardized coefficients of the path coefficient of the direct effect of perceived usefulness on perceived performance

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Standard coefficients B	Non-standardized coefficients B	Standard error S.E	Critical ratio C.R	Significance P
0.375	0.355	0.47	7.475	0.001<

Based on Figure 2 and the standard coefficients mentioned in Table 7, the path coefficient of the direct effect of perceived usefulness on the perceived performance of users of public libraries in Khuzestan in using information technology is significant (β=0.375, P<0.01). This result confirms the fourth hypothesis of the proposed structural model.

Table 7: Standard and non-standard coefficients of the path coefficient of the direct effect of technology-task fit on perceived ease

Table 8: Correlation between independent, dependent, mediating variables, and bootstrap results

Path	Bootstrap value	Lower bound	Upper bound	Sig
task-technology fit ⟶ perceived usefulness	0.189	0.098	0.282	0.01

P < 0.005*

The results presented in Table (8) show that the bootstrap result for the seventh hypothesis was obtained at 0.189. The lower bound of the confidence interval was calculated at 0.098 and its upper bound was calculated at 0.282. The significance level was 0.01 and the number of bootstrap resampling was 2000. Since zero is outside the confidence interval, the indirect effect of technology-task fit on perceived performance with the mediating role of perceived usefulness was significant.

Conclusion

The present study investigates the effect of technology-task fit on the perceived performance of users of public libraries in Khuzestan given the mediating role of perceived usefulness. The results revealed that based on the standard coefficients reported in the path coefficient, the direct effect of technology-task fit on the perceived usefulness of users of public libraries in Khuzestan in using information technology is significant (β = 0.505, P<0.01). It means that changes in the independent variable of technology-task fit will cause fluctuations in the dependent variable of perceived usefulness. In other words, by increasing technology-task fit among employees, the perceived usefulness will increase among users.

Based on the results and the mentioned coefficients, the path coefficient of the direct effect of perceived usefulness on the perceived performance of users of Khuzestan public libraries in using information technology is significant (β = 0.375, P < 0.01). This result confirms the proposed structural model. It means that by increasing perceived usefulness among employees, the perceived performance of users also increases. The results show that the bootstrap result for the findings was obtained at 0.189. The lower bound of the confidence interval was calculated at 0.098 and its upper bound was obtained at 0.282. The significance level was 0.01 and the number of bootstrap resampling was 2000. Since the zero is outside the confidence interval, the indirect effect of technology-task fit on perceived performance given the mediating role of perceived usefulness is significant. Due to the strong, positive, and significant effect of technology-task fit on perceived performance, it is recommended to hold different courses for managers and users to increase their perceived performance.

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