Impact of Intention and Technology Awareness on Transport Industry's E-service: Evidence from an Emerging Economy.

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Abstract

Purpose - Usage of E-services is critical for businesses to maximize work efficiency and gain competitive advantage. The aim of the study is to explore how awareness of technology and e-services usage in an emerging economy in Pakistan. The studies aimed to explore as to what extent these factors can potentially motivate transport employees towards e-services; who are generally not aware about technology and hence also not confident in using it also.

Research design, data, and methodology - Employees from the three transport subsidiary units from a large private company in Pakistan were sampled for the study. Through using self-administered technique, the questionnaires were distributed during the month of April, 2016 to 189 employees. A total of 150 responses were taken further for analysis where the study found a positive link between awareness of technology and e-services usage.

Results - This study found positive relationship between intention to use and e-service usage among the employees of three subsidiary units. The paper has reported 30 percent variance explained by the predicting variables in relation with e-services usage.

Conclusions - Employees could be motivated to use e-services and latest technology through enhancing their awareness about their respective importance and viability. Accordingly, organizations can foster employees' intentions to use to enhance e-service usage.

Keywords: Technology Awareness, Intention to Use, E-service usage, Transport Industry.

JEL Classifications: L91, L92.

1. Introduction

Rapid advancements can be traced in terms of technology over the recent decades across the globe. Studies in this area have called for businesses to focus on investigating the role of these latest technological advancements on the business processes` efficiency and

effectiveness (Ahmad, 2012). E-services are increasingly becoming important as they facilitate institutions, businesses and other work set ups to facilitate general public (Axelsson, Melin, & Lindgren, 2013). More specifically in the emerging economies, the use and implementation of e-services is new which is why there is little empirical knowledge available on how different prospects could enhance the use of e-services (Smith, 2011).

Parallel to this, there is lack of study on how such components would relate and link in emerging economies like Pakistan. The current study has pioneered to examine how the awareness of technology and user intention can influence the use of e-services in Pakistan.

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2. Literature Review

2.1. E-Services

Implementation of e-services is growing across the globe. Talking about every business and sector, the use and implementation of e-services is rising to remain competitive and effective in offering products and services (Hofacker, Goldsmith, Bridges, & Swilley, 2007).

There have been plenty of examinations to outline what actually can enhance the use of e-services (Colesca & Dobrica, 2008). Out of this majority of the studies have outlined that how people, who are the target audience, actually perceive about a certain e-service. In other words, it depends upon how and what is believed about the e-service. According to Ahmad (2012), when people have awareness of a certain technology, they tend to enhance their willingness towards using the e-service. Study by Swain and Panda (2009) on the employees of a university in India found that the use of e-services was high when the respondents were aware of the technology and exerted positive intentions towards using it. Al-Ghaith, Sanzogni and Sandhu (2010) in their article have highlighted that the use of e-services can be responsively facilitated by awareness of technology. The authors concluded that encouraging the technological awareness can considerably lead to maximizing the use of e-services.

In line with this, the use of e-services is also dependent upon how a particular institution or business is working to increase awareness about it. There have been studies that outline that there is a strong link between awareness of technology and use of e-services (Singh, 2002). The studies have underlined that despite of the strong connection. It is also important that target audience has intention to use the technology as well. Through these explanations, it could be seen that there can be a strong potential for awareness of technology towards enhancing use of e-services. Similarly, there is a potential of finding a strong connection between intention to use and actual use of e-services.

2.2. Awareness of Technology

Awareness in connection technology refers to knowledge and understanding regarding a particular technological product or service (Mofleh, Wanous, & Strachan, 2008). The definition asserts awareness of technology as the knowledge of use and features of a certain technology or technological aspect. Awareness of any e-services in the eye of this definition can be of great value for enhancing its use. Top, Yukselturk, and Cakir (2013) have outlined the importance of awareness of technology. Raffat (2003) has also outlined that awareness of technology can significantly enhance the

use of e-services. The study also states that there is a lack of study on how technology awareness can influence or more precisely increase the use of government of institutional level implementation of e-services. Lee and Wu (2011) have suggested that any technological advancement is only accepted by the target audience when they are aware of it to an adequate level. The author says that when people are aware of the latest input, they build confidence in using it respectively. Rahman et al. (2012) has outlined that awareness of services is important in order to acquire responsive use and application by the target audience.

Bardram and Hansen (2010) in their study found that there is a strong relationship between the technological awareness and the use of it. Individuals need to understand and comprehend with the latest technological advancements in order to enhance their usability. Bamberg and Moser (2007) has outlined that compared to highly developed economies; the rate of awareness of technology is less in the rest of the world. Yaqub et al. (2013) has also underlined the importance of awareness of technology in influencing the use of e-services by government. Talking specifically about Nigeria, the study says that there is a lack of awareness which is why the use of government e-services is not as expected. Similarly, Abubakar and Ahmad (2013) have also outlined the importance yet, the shortage of research in this regard. The article has also outlined the need for studying this relationship in the context of economies that have been focusing on implementing e-services and latest technology over the recent years. Thus, based on these explanations, the current study aims to investigate the role and impact of awareness of technology on the use of e-services through the following hypothesis:

<H1> There will be a positive relationship between technology awareness and use of e-services

2.3. Intention to Use

With growing technological advancements, profitable or non-profitable, all sorts of establishments are working and investing towards implementing technology. In line to this, they are also working to encourage target audience to get familiar with the technological advancements in order to enhance their intention to use (Venkatesh et al., 2003). In the views of Carter and Belanger (2005), the development of the intention to use is important in order to increase the use of e-services. The usage of e-services is important for responsive capitalization but it can only happen when the customers have the intention to use. Liu et al. (2010) suggests that there is a strong connection between intentions to use when it comes to technology. Teo (2011) in his study on faculty members has also indicated that there is a strong

connection between intention to use and use of any technological service (e-services).

According to Alharbi (2014), there is a great significance of technology awareness in order to facilitate intention to use. The authors further state that there are many emerging economies where the lack of technology awareness is hindering the use of e-services. Accordingly, the intention to use goes missing due to the fact that there is strong connection between e-services usage and intention. In the views of Alateyah, Crowder, and Wills (2013), the proportion of intention to use is important in order to get customers to use the e-services. Often, people are reluctant to use e-services because they have no intention to. And it is the responsibility of that particular state, business or institution to increase awareness so that individuals may think of using the e-service.

According to Alsaif (2013), there are major challenges in connection to people's intention to use e-services. Often enterprises think that the implemented e-services are of no convenience of troublesome in some manner, but in reality it is all because of lack of intention to use. Phang et al. (2005) suggests that intention to use is important for the use of e-services. There are people who may become potential users of the e-services but since, the business does no initiatives to make them aware and get used to the e-service, they tend to be low in their intention; thus resulting in low use of e-services. Conclusively, it would be important to see how intention to use responds in the emerging economy like Pakistan and thus, the following hypothesis is formulated:

<H2> There will be a positive relationship between intention to use and use of e-services.

3. Methodology

3.1. Sampling and Target Audience

189 employees from three major transport subsidiaries of a major private company in Pakistan were targeted. The company had recently implemented attendance recording and monitoring system. This latest e-service was implemented in order to ease employee in punching In and Out to mark their presence at work. Alongside this, a manual register is still placed. The respondents were asked as to how they perceived the effectiveness of the e-service and how they viewed this followed by their perceptions about technology awareness and intention to use the service rather than the manual register.

Questionnaires through using self-administered technique were distributed amongst all the employees. In return 167 responded back out of which 17 were discarded.

Conclusively, 150 were found appropriate and were taken for further data analysis.

3.2. Measures

3-item scale by Kraemer et al. (1993) was used to examine how respondents reacted towards the latest e-service in terms of usage. Similarly, 3-item scale by Grover et al. (1993) was used to explore how respondents rated their technology awareness. The scale asked respondents to answer about their knowledge and understanding about the latest implemented technology and its use. Lastly, a 6-item scale by Mathieson (1991) to investigate intention to use. The scale comprised of questions inquiring as to how people perceive about their intentions to use technology, particularly any new e-service.

4. Data Analysis

4.1. Measurement Model

Smart PLS 2.0 (Ringle, Wende, & Will, 2005) was used to perform structural equation modeling (Wold, 1975) where, reliability and convergent validity followed by discriminant validity were assessed. All the loadings have resulted responsively above the minimum level of 0.5, as suggested by Chin (1998). Furthermore, AVE of each of the construct is also verified which has also resulted above the suggested threshold (Exposite vinzi et al., 2010). The results hence have forwarded sound convergent validity.

<Table 1> Loadings

Latent variable	Items	Loadings	AVE	CR	R^2
Technology Awareness			0.676	0.857	
	AT	0.913			
	AT	0.932			
	AT	0.571			
Intention to Use			0.940	0.989	
	IU	0.993			
	IU	0.989			
	IU	0.913			
	IU	0.937			
	IU	0.993			
	IU	0.989			
E-services Usage			0.774	0.911	0.3
	ESU	0.881			
	ESU	0.940			
	ESU	0.813			

4.2. Discriminant Validity

Results of the discriminant validity assessment according to the suggestions of Fornell and Larcker (1981) are also appropriate. According to them, the AVE values of each construct should be greater than the correlations in comparison. <Table 2> outlines further details on it.

<Table 2> Discriminant Validity

Latent Variable	ESU	IU	TA
ESU	**0.880**		
IU	0.776	**0.970**	
TA	0.772	0.737	**0.822**

4.3. Structural Model

Bootstrapping procedures were applied in order to attain the t-values and examine the level of significance of each predictor with outcome variable. In this, bootstrapping was applied through 500 samples. <Table 3> in relation to structural model assessment outlines that technology awareness was found significantly related with e-services usage (β=0.142, p<0.01). Similarly, intention to use was also significantly related with e-services usage (β=0.437, p<0.01) Hence, all the two hypothesis were found supported. Importantly, the results have outlined 30 percent variance with the hypothesized relationships.
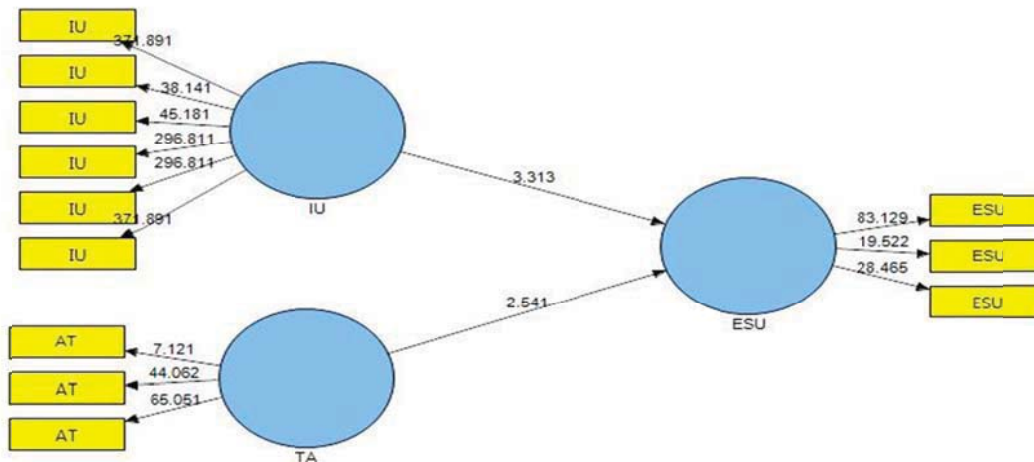
<Table 3> Structural Model

Relationship	beta value	Std-error	t-value	Conclusion
TA -> ESU	0.362019	0.142455	2.541293	supported
IU -> ESU	0.437206	0.131968	3.312978	supported

5. Results and Findings

As stated earlier, that the current study examined two hypotheses (<H1> and <H2>), enquiring the relationship between technology awareness and e-service usage under <hypothesis 1> and relationship between intention to use and e-service. Under the domain of <hypothesis 1>, the study has found a strong relationship between awareness of technology and use of e-services amongst the employees of all three transport subsidary units.

The study has found that employees who perceived more awareness of the technology or expressed familiarity with the technology were more tilted towards using it. This study has outlined that institution or businesses that aim to enhance the use of their e-services and technological advancements; they need to focus on implementing strong base regarding awareness of technology respectively. The results are encouraging to suggest that use of e-services can be facilitated through enhancement of technology awareness. Hence hypothesis is supported by the results of the current study.

In the similar manner, the current study under <hypothesis 2> tested the relationship between intention to use and use of e-services amongst the staff and faculty members. The study has also found a strong association between the two factors. The results are encouraging and show a good connection between intention to use and e-services usage. The results have found that when staff and faculty members were high in intention to use, they resulted in higher e-services usage. This henceforth suggests that institutions or businesses intending to increase the use of e-services need to focus on enhancing employees` intention to use that particular technology. The study has hence resulted in supporting <hypothesis 2> as well.

<Figure 1> Structural Model

6. Conclusion, Limitation and Recommendations

The study aimed and investigated how technology awareness and intention to use can increase the e-services usage. The study sampled employees from three transport subsidiary firms of a major private company in Pakistan. The study found a strong link between employees' technology awareness and e-services usage. Accordingly, the study also found a strong relationship between intention to use and e-services usage.

The study concluded a positive relationship between technology awareness and intention to use with e-services usage. This refers that when employees are technologically

sound or confident in the use of it; they ultimately express willingness in using e-services. The results have although resulted in 30 percent of variance which suggests that further investigation is required to explain what other variables could potentially facilitate in boosting e-services usage. The authors recommend further examination of these variables in other work settings in order to outline how these components react and relate to e-services usage since this study was limited to employees' of one organization. The study also recommends investigating multiple institutions and business setups in parallel to compare how employees in different organizational settings perceive their technology awareness, intention to use and e-service usage.

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