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An Empirical Study on Role of Innovative Work Behavior as a Predictor of Technology Adoption in British Tourism Industry: The Management Perspective

Ahmed Fawad

Ph.D. Candidate, School of Management, Wuhan University of Technology, Wuhan, China

Mughal Muhammad Farhan

Postgraduate Student, Central China Normal University, Wuhan, China

Razzaq Asif

Deputy Director, Capital Development Authority, Islamabad, Pakistan

Warraich Siddiq Hassan

Manager, Department of Human Resources, Pakistan International Airlines,
Regional Head Quarters, Islamabad, Pakistan

Faraz Naveed Ahmad

Ph.D. Candidate, School of Management, Wuhan University of Technology, Wuhan, China

Abstract:

This paper employs the original technology acceptance model by Davis to study technology acceptance and usage behavior among managerial staff in tourism industry in United Kingdom. Moreover, it studies the innovative work behavior of managers as an antecedent of perceived ease of use, perceived usefulness and attitude towards use. Questionnaire survey technique was used to collect data with a 7-point Likert scale. The sample included 77 managerial staff from six different travel agencies in U.K. PLS-SEM was used to analyze data. The results demonstrate that innovative work behavior is a strong predictor of TAM variables and also confirms past research findings that perceived usefulness results in a positive attitude towards use and confirms attitude towards use as a strong predictor of intention to use technology.

Keywords: *Innovative work behavior, perceived usefulness, attitude towards use, TAM*

1. Introduction

Organizations repetitively come across situations that create a need for change in the structure, one or all of their processes as well as technologies. This change can face resistance; to alleviate such resistance literature proposes creating readiness amongst the affected individuals (Ifinedo, 2011).

It is important for organizations to understand employee readiness for change because this attitude is a predictor of employee behavior (Fishbein and Ajzen, 1975). An individual's attitudes convert into actual behavior due to influence of numerous factors. The core factor that determines employee work behavior and results of organizational interaction is employee readiness. It is vital for organizations to understand how an individual employee perceives the probable results of a change initiative at workplace; this is helpful for managers in preparing coping mechanisms against resistance to change (Alas & Gao, 2012).

2. Theoretical Background and Hypotheses

It is a common phenomenon worldwide that employees have to face many organizational changes; sometimes in the form of new technologies, management practice changes and even downsizing (Su, Baird & Blair, 2009), self-empowered teams or even automation. Although it is of utmost importance that employees adopt change initiatives, yet researchers have estimated that change initiatives tend to fail often. This failure rate ranges between 28% to 70% (Decker et. al., 2012). Results of study by Jones, Jimmieson and Griffiths (2005) show that individuals who demonstrated a higher level of readiness in the early stages of a change initiative were more likely to change their behaviors in support of such initiative in the post-implementation stage.

Technological changes in past 3 decades have brought several major changes in Organizations where management looks to bring restructuring and downsizing in order to bring operational efficiency and optimize the firm performance. This

has caused a strong change in employees' perceptions of their relationship with the firm and management (Zhao et. al, 2007). Having said so, this also has brought a positive change in employee competitiveness and workers now try to be more innovative at workplace through learned behavior with respect to technology readiness and awareness. Making them more receptive towards change and be more adaptive and innovative.

As argued by Jones, Jimmieson and Griffiths (2005) Employees' perception of readiness for change is "the extent to which employees hold positive views about the need for organizational change as well as the extent to which employees believe that such changes are likely to have positive implications for them".

Therefore, successful technology adoption at workplace has led to create an environment of innovative behavior amongst employees as compared to the past decade. This study looks to explore the relationship of IWB with TAM

As defined by Janssen (2000), innovative behavior of an employee entails the "creation, promotion, and execution of innovative ideas during job tasks within a group or organization". Janssen (2000) and Krause (2004) proposed that innovative work behavior is the result of multilevel interactions taking place in the course of on the job task performance. Previous works (Scott and Bruce, 1994) have given due weight to individual personality traits, including innovativeness and technology readiness, in order to explain describe the individual's attitude toward change. Technology readiness is a state of mind that affects "people's propensity to embrace and use new technologies for accomplishing goals..." (Parasuraman, 2000). It is argued that this related to the degree of readiness that the individual felt in using a technology. The technologically ready individual is more likely to see it as easy to use (Qin and Ahmed, 2017).

Davis (1989) observed that TAM is repeatedly indicated in literature as one of the most powerful, robust and parsimonious models in order to predict user acceptance, particularly in context of information systems. In order to predict and elaborate the user's adoption behavior and acceptance for any give technology, there has been ample research conducted in past to ascertain the determinants of acceptance and use of information technology and systems (Fishbein and Ajzen, 1975).

Therefore, we expected that individuals ready for change believed they could easily learn how to use the system with little effort. Moreover, they want to try new things and look for opportunities to be more creative. Thus, they find new technology useful. Based on above literature, following hypotheses were formed:

- Hypothesis 1: Innovative Work Behavior (IWB) has a positive effect on Perceived ease of use (PEU)
- Hypothesis 2: Innovative Work Behavior (IWB) has a positive effect on Perceived usefulness (PU)
- Hypothesis 3: Perceived ease of use (PEU) has a positive effect on Perceived usefulness (PU)
- Hypothesis 4: Perceived ease of use (PEU) has a positive effect on Attitude towards Use (ATU)
- Hypothesis 5: Perceived usefulness (PU) has a positive effect on Attitude towards Use (ATU)
- Hypothesis 6: Attitude towards Use ATU has a positive effect on intention to use (IU)

3. Methodology

The authors searched online for renowned travel agencies which were also registered with the companies' house in UK, the official government body regulating businesses. Only small and medium size enterprises were targeted. Then the authors shortlisted and contacted 19 travel agencies which dealt with international worldwide flights from UK and also offered hotels, cruises, transit visas, arranged travel insurance for passengers and offered multiple e-products (Hunt, 2015). All companies were located in the Greater London region. Six companies, namely Travelhouseuk, Chahal travel and tours, Crystal Travel, Air Travel Guide, 7 continents travel and Moresand ltd group, agreed to help us with our study subject to the condition that researchers agreed that results of the study shall be shared with them. A questionnaire survey technique was used by adopting 20 items from past studies to ensure face and content validity. IWB was measured through 4 items adapted from Scott and Bruce (1994) while 16 items for TAM (perceived ease of use = 5, perceived usefulness = 5, attitude towards use = 3, intention to use = 3) were adapted from Davis (1989). A 7-point Likert scale was used with 1 meaning "Strongly Agree" and 7 meaning "Strongly Disagree".

A total of 88 questionnaires were distributed to only the middle and higher management professionals, out of which 80 responses were received back. After reviewing the responses, 77 responses were deemed usable. Out of the respondents, 30 (38.9%) were females and 47 (61.1%) were males. The hierarchy levels included 3 (3.9%) General Managers, 2 (2.6%) Directors, 23 (29.9%) Managers and 49 (63.6%) Assistant Managers.

4. Results and Discussion

Structural Equation Modeling (SEM) technique was used to analyze the data through SmartPLS 3.2 (Ringle, Wende and Becker, 2015). It the recommended software if the goal is predicting key target constructs or identifying key "driver" (Hair, Ringle and Sarstedt, 2011). The choice of PLS-SEM over SPSS, LISREL, AMOS and other softwares was also due to its effectiveness with small sample sizes and ability to handle non-normal data. Firstly, Measurement model was assessed through PLS-Algorithm function. Then Structural model was assessed through Bootstrap function.

4.1. Measurement Model

The results of measurement model in table 1 show that all the variables had a very significant value for Cronbach alpha ranging from 0.802 to 0.912. The composite reliability, which is considered a better measure of reliability than Cronbach alpha, was also very healthy for each of the variables ranging from 0.878 to 0.943. The model also has a significant AVE for

each of the constructs and though the benchmark was set at 0.50 as the threshold, all constructs had an AVE of higher than 0.50 (Chin, 1998), thereby establishing the convergent validity of the model.

	Fornell-Larcker Criterion				
	ATT	IWB	IU	PEU	PU
Attitude	0.920				
Innovative Work Behavior	0.807	0.957			
Intention	0.879	0.652	0.843		
Perceived Ease Of Use	0.767	0.793	0.698	0.819	
Perceived Usefulness	0.861	0.798	0.752	0.774	0.861

Table 1: Constructs Reliability Convergent Validity

Basic PLS-SEM Algorithm was conducted in two stages as recommended by Ringle, Wende and Becker (2015) and Hair, Ringle and Sarstedt (2011). In Stage one, iterative estimation of latent construct scores and stage two, final estimates of coefficients (outer weights and loadings, structural model relationships) are determined using the ordinary least squares method for each partial regression in the PLS-SEM model.

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Attitude	0.909	0.912	0.943	0.847
Innovative Work Behavior	0.970	0.971	0.978	0.916
Intention	0.802	0.824	0.880	0.710
Perceived Ease Of Use	0.809	0.825	0.868	0.571
Perceived Usefulness	0.912	0.933	0.934	0.742

Table 2: Constructs Discriminant Validity

Moreover, the model should also have discriminant validity in addition to convergent validity. We used the Fornell and Larcker criterion to ascertain this. Table 1 above shows the square root of AVE values written along the diagonal in bold italics. All the AVE values are higher than the correlation values in the corresponding columns, thus establishing the discriminant validity.

The R-square value is the value of independent variable(s) which explains the variance in a dependent variable (Ringle, Wende and Becker, 2015). As Chin (1998) has recommended R-square values of 0.67 for substantial, .33 for moderate and 0.19 for weak, the figure below shows R-square explained variance of construct(s) in the endogenous variable as 77.2% for Intention to Use, 78.7% for attitude and 69.1 % for Perceived usefulness, which are all substantially high. The R-Square for Perceived Ease of Use is 62.9% which is also considered very good as it ranges in moderate level (Chin, 1998).

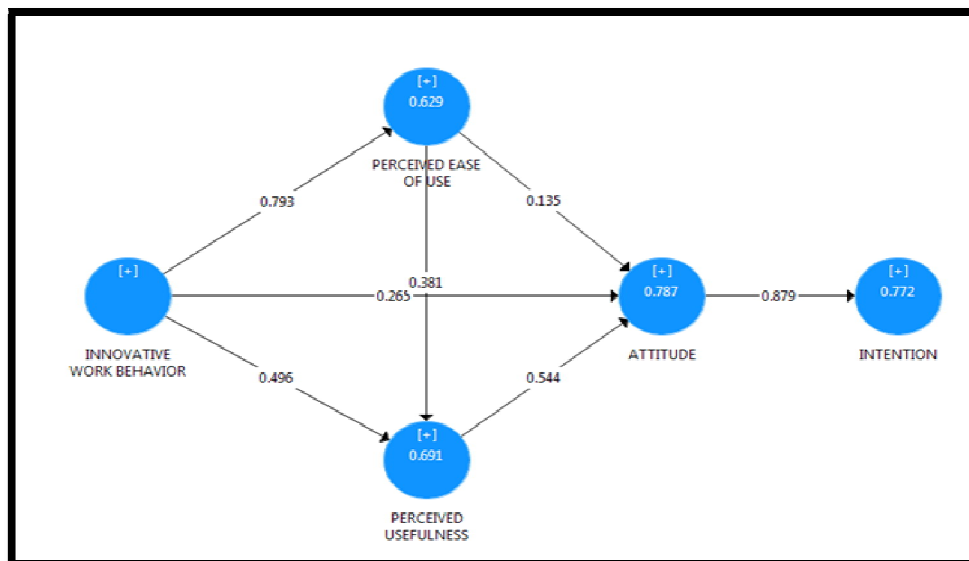


Figure 1: Results of Model

4.2. Structural Model

The structural model results are displayed in table below. The results show that all the hypothesized relationships are significant with respect to t-value as well as p-value.

Hypotheses	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Results
ATT -> IU	0.879	0.879	0.026	33.473	0.000	Accepted
IWB-> ATT	0.265	0.257	0.104	2.540	0.006	Accepted
IWB-> PEU	0.793	0.799	0.032	24.431	0.000	Accepted
IWB-> PU	0.496	0.492	0.113	4.382	0.000	Accepted
PEU -> ATT	0.135	0.147	0.077	1.766	0.039	Accepted
PEU -> PU	0.381	0.389	0.108	3.537	0.000	Accepted
PU -> ATT	0.544	0.539	0.116	4.679	0.000	Accepted

Table 3: Results of Structural Model

The model confirms previous studies findings that Attitude towards use has a positive effect on Intention to use ($\beta = 0.879$, $t = 33.473$). Perceived usefulness has a positive effect on Attitude ($\beta = 0.544$, $t = 4.67$), perceived ease of use has a strong positive effect on perceived usefulness ($\beta = 0.381$, $t = 3.537$) but a weak effect on attitude ($\beta = 0.137$, $t = 1.766$). Innovative work behavior showed positive effects on PEU ($\beta = 0.793$, $t = 24.431$), PU ($\beta = 0.495$, $t = 4.382$) and ATT ($\beta = 0.265$, $t = 2.54$). P-values for relationships between IWB and ATT was 0.006, for PEU & ATT was 0.039 and p-values for all other relationships were highly significant and below 0.001.

5. Conclusions

Ample research is available on Perceived ease of use and usefulness as predictors of attitude and attitude in return predicting the intention to use. This study adds value by studying this phenomenon in tourism industry. The study shows that there is a positive impact of managerial staff's innovative work behavior on the technology adoption behavior (Krause, 2004). These not only confirm the past research findings such as Parasuraman (2000) and Davis (1989) but also add to literature by showing innovative work behavior as an antecedent to TAM. The more innovative the managers' work behavior, the greater the effect of their behavior on technology adoption. This study has the limitation that it was carried out for the managerial staff only, which is paid better than the other operational staff. So, future study can be recommended to include the extrinsic and intrinsic motivational factors with the innovative work behavior to check for relationship with technology acceptance.

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