
ORGANISATIONAL COMMITMENT AND EMPLOYEES' INTENTION TO ADOPT NEW TECHNOLOGIES

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ABSTRACT

This study focused on examining factors influencing employees' intention to adopt new technologies at work. In particular, Theory of Planned Behaviour and Technology Acceptance Model were used to test relationships between subjective norm, perceived behavioural control, perceived usefulness, and perceived ease of use and employees' intention to adopt new technologies. In addition, the mediation effect of affective organisational commitment between factors and intention was investigated.

The Qualtrics panel was used to test the hypotheses, and the data were collected from 245 full-time hospitality employees working in the United States. Results indicated that subjective norm, perceived behavioural control, perceived usefulness, perceived ease of use, and affective organisational commitment positively influence organisational commitment. Additionally, affective organisational commitment mediates the relationship between subjective norm and intention to adopt new technologies.

These findings can help hospitality professionals understand what influences employees' intention to adopt a new technology. A discussion of implications, limitations, and the recommendations for future research are included.

Keywords: *New Technologies, Intention to Adopt New Technologies, Hospitality Industry, TAM, TPB*

Introduction

Since new technologies are introduced to customers every day, employers must consider applying these new technologies to meet customers' expectations. Nowadays, new technologies have made it more convenient and easier for customers when they are planning a trip (Coussement & Teague, 2013; Kim, Park, & Morrison, 2008). In the hospitality industry, smartphones have become one of the major devices for providing information and services to customers. Hotel guests are able to book a hotel room, search for information about the hotels, and even use their smartphones as a room key. Also, customers are able to find restaurants and make a reservation using smartphones, even if they are in an unfamiliar location (Kwon, Bae, & Blum, 2013; Wang, Xiang, & Fesenmaier, 2014). As a result, business operators in the hospitality industry need to remain competitive by developing and offering mobile applications for smartphone users.

However, these new technologies brought changes not only for customers, but also for companies and their employees. When employers try to implement new changes in the workplace, they may be confronted with employee resistance, since many employees are often reluctant to change (Iverson, 1996). Hence, technological changes transform work, skills, workplaces, lifestyles and the quality of life, because of this, it has become an ongoing issue of analysis after industrial revolution. (Connell, Gough, McDonnell, & Burgess, 2014).

New changes in the workplaces may bring many different forms of resistance, such as a decrease in productivity, high turnover rates, wild cat or slowdown strikes, etc. (Lewrence, 1969). Employers would not want to meet any of these resistances because it may cause employees to leave their jobs or to be unproductive at work.

When employers decide to offer new technologies for customers, the employees will need to adopt and to learn the new technologies, whether they like it or not. In addition, new technologies may affect current employees' job tasks. For example, a front desk agent, who used to check guests in, now is assisting guests checking in on the kiosk (Kwon et al., 2013). Customers are also able to order food or make a payment using tablet computers without help from the wait staff in restaurants (Garber, 2014). Furthermore, new technologies may eliminate positions all together. Therefore, adopting and applying new technologies may increase employees' anxiety and stress about their jobs and affect their intention to leave their jobs (Rotman, 2013).

The objective of this study is to examine the factors (subjective norm, perceived behavioural control, perceived usefulness, and perceived ease of use) influencing employees' intention to adopt new technologies at work, investigate the mediation effect of affective organisational commitment on the relationships between factors and intention, and find out how practitioners encourage employees to adopt new technologies at work. Since high turnover rates are a serious problem in the hospitality industry, practitioners in the industry should be careful when they implement a new technology in the workplace (U.S Bureau of Labor Statistics, 2014). In addition, hospitality operators will need to figure out what can help reduce employee resistance when adopting new technologies.

Literature Review

Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (TPB), proposed by Ajzen (1991), claimed that the central factor in the TPB is the behavioural intention as it is generally assumed to bring the motivational factors that may influence the actual behaviour. The TPB presents that subjective norm, perceived behavioural control, and attitude contribute to the intention to perform the behaviour (Ajzen, 1991).

Subjective norm refers to the degree of social pressure to perform a particular way. Subjective norm indicates the perceived social pressure or normative influences to do or not to do the behaviour (Mullan, Wong, & Kothe, 2013). For example, in the work places, employees can believe that important people such as managers or co-workers adopting a new technology is important, employees more likely intend to adopt the new technology. Perceived behavioural control reflects an individual's perception that he or she has the necessary skills and knowledge to be engaged in the behaviour (Ajzen, 1991; Brown, Massey, Montoya-Weiss, Burkman, 2002). In other words, perceived behavioural control indicates the perception that people feel ease or difficulty when they perform behaviour. Employees will have stronger intentions to perform behaviours when they think the new technology is easy to learn (Mullan et al., 2013). Attitude toward the behaviour refers to the degree to which an individual has a favourable or unfavourable evaluation of the behaviour (Ajzen, 1991). However, attitude is usually not considered to be associated with intention in the workplace because employees will intend to learn and use the system to perform the job regardless of their positive or negative attitudes toward the technology (Brown et al., 2002). Two hypotheses derived from the TPB:

H1: Subjective norm has a positive relationship with intention to adopt a new technology.

H2: Perceived behavioural control has a positive relationship with intention to adopt a new technology.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was proposed by Davis et al. (1989), and it is also rooted in the TRA (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975; Lu et al., 2003). The TAM proposed that perceived usefulness and perceived ease of use influence an individual's intention to use a technology in the workplace, and the behavioural intention will influence the actual use of a new technology (Davis et al., 1989). Brown et al. (2002) stated that perceived usefulness has been shown to be a strong determinant to predict behavioural intention to use information technology. Davis et al. (1989) indicated that perceived ease of use is the degree employees believe the new technologies enhance their job performance. In other words, employees are willing to adopt a new technology when they it will reduce the amount of effort required for their job. Two hypotheses are derived from TAM:

H3: Perceived usefulness has a positive relationship with intention to adopt a new technology.

H4: Perceived ease of use has a positive relationship with intention to adopt a new technology.

Organisational Commitment

We examined organisational commitment as a mediator variable that has an influence on intention to adopt new technologies. Organisational commitment can be a strong predictor of employee turnover and is a critical factor that make companies successful (Tett & Meyer, 1993). Thus, many researchers who studied human resource management emphasized the importance of organisational commitment (Porter et al., 1976; Martin & O'Laughlin, 1984; Meyer et al., 2002; Raub & Robert, 2013). Therefore, increasing organisational commitment may reduce resistance of new technologies from employees.

Meyer and Allen (1991) state the three components of organisational commitment: affective commitment, continuance commitment, and normative commitment. According to Meyer and Allen (1991), affective commitment shows the desire of remaining with an organization. Individuals

who are affectively committed to organizations attach to the organization; in other words, they want to stay in the organization. Continuance commitment states that employees stay with an organization because they need to. These employees commit to the organization when they perceive a high economic or social cost when they leave the current company. Normative commitment refers to employees' moral obligations. Employees stay with the organization because they think that is the right thing to do. Since affective commitment represents positive feelings about the companies, we selected affective commitment to mediate the relationships between the three antecedents of intention and the intention to adopt new technologies. The last hypothesis is derived from affective organisational commitment:

H5: Affective organisational commitment will mediate the impact of the four antecedent variables-subjective norm, perceived behavioural, perceived usefulness, and ease of use-on adopting a new technology.

Proposed Model

The goal of this study is how organisational commitment has an influence on employees' intentions to adopt new technologies. Meyer and Allen's (1991) affective organisational commitment was chosen to identify the relationship between the five antecedents and the intention to adopt a new technology in the hospitality industry.

Sometimes employer may have to adopt new technologies that their employees do not like. We investigated whether the committed employees would be more willing to adopt new technologies. The proposed model has been developed based on the literature, to study how affective commitment influences perceived usefulness, perceived behavioural control, and subjective norm in adopting hospitality employees' intentions to adopt new technology (see Figure 1).

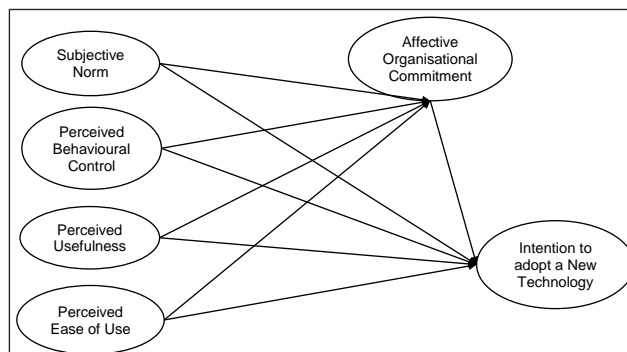


Figure 1. Proposed Model

Methodology

Research Instrument

The questionnaire was developed based on previously identified measurements, and it consisted of four sections. Section one was designed to collect information measuring perceived usefulness, ease of use, subjective norm, and perceived behavioural control. Items measuring perceived usefulness was adopted from Venkatesh and Davis (2000)'s study. Among several scales that have been developed to measure perceived usefulness, Venkatesh and Davis (2000)'s study was used because several studies that used the scales constantly showed high internal consistency reliability (Cronbach's alphas ranged from .87 to .98). Questions from Venkatesh and Davis (2000) was used to measure ease of use because the Cronbach's alphas ranged from .86 to .98 across studies and time periods. Lam, Cho, and Qu (2007) adopted Ajzen and Fishbein (1980)'s statements regarding subjective norm to examine hotel employees and it showed high internal consistency reliability (Cronbach's alpha = .81). Therefore, this study adopted the same statement to measure subjective norm among hospitality employees. For questions measuring perceived behavioural control, this study adopted Huh, Kim, and Law (2009)'s version developed based on Ajzen and Fishbein (1980) and Taylor and Todd (1995). Huh et al. (2009)'s study showed high internal consistency reliability (Cronbach's alpha = .81).

Section two was designed to collect employees' level of affective commitment. This study employed Meyer and Allen (1991)'s Affective Commitment Scale (ACS), and Cronbach's alpha for the ACS was .87. For section three, the respondents were asked to rate their intention to adopt a new technology. This study used questions from Lam et al. (2007) and Huh et al. (2009) which had high internal consistency reliability score (Cronbach's alpha = .93). Lastly, section four collected socio-demographic information of the respondents. Respondents indicated their degree of agreement on a seven-point Likert scale, ranging from (1) "strongly disagree" to (7) "strongly agree", except for section four. All items were modified to fit the context of the hospitality industry.

Sample and Data Collection

The target for this study was full-time hospitality employees who were employed at the time of the survey. The sampling frame of the study comprised of entry-level employees, back-of-the-house employees, front-of-the-house employees, and supervisory and management-level employees.

In order to reach the sample population, a national panel through Qualtrics was used. Using a purposive non-probability sampling method, the research invitation with a link of the online survey was sent to the panel to complete the questionnaire for incentives/cash honorarium. A screening question was used to identify the qualifying respondents for this study. The question asked whether he or she was working full-time in the hospitality industry, and the individuals who answered no to this question was led to the end of the survey and thanked for their participation.

Analysis

The data were formatted for use with SPSS, Amos, and Mplus statistical software programs. Confirmatory factor analyses (CFA) were used to test whether the constructs existed and could be distinguished from each other (Gall, Gall, & Borg, 2007).

The reliability was tested by Cronbach's alphas to check internal consistency and to ensure that all of the values were at an acceptable level of 0.6 or higher (Tabachnick & Fidell, 1996). The hypothesized relationships among variables were tested using structural equation modelling (SEM) because SEM deals with multiple causal relationships simultaneously and test the relationships comprehensively (Hair, Anderson, Tatham, & Black, 2006).

Results

Socio-demographic Information

Although 258 questionnaires were collected, only 245 responses were kept for further analysis, due to extreme answers or one or more missing answers. Table 1 shows the socio demographic profile of the respondents including gender, age, race, level of education, annual income, and three different types of tenure information. Of the 245 respondents, approximately 58% of the respondents were female, and over 49% were between the age of 18 and 30 years old. The majority of the respondents were Caucasian (76%) and had at least some college education (85%).

In addition, approximately 58% of respondents were line-level employees including entry-level employees, back-of-the-house employees, and front-of-the-house employees. Also 42% of the respondents were supervisory/management-level employees working in the hospitality industry. Respondents also answered questions regarding the length of their employment. Over 42% of the respondents had been employed in the hospitality industry for five years

or less, while approximately 14% have worked in the hospitality industry for 21 years or more.

Table 1. Demographic Profile (N = 245)

Variables	Item	N	%
Gender	Male	102	41.6
	Female	143	58.4
Age	20 years old or younger	24	9.8
	21 – 30 years old	96	39.2
	31 – 40 years old	47	19.2
	41 – 50 years old	28	11.4
	51 – 60 years old	34	13.9
	61 years old and older	16	6.5
Ethnicity	White/Caucasian	186	75.9
	African American	22	9.0
	Hispanic	16	6.5
	Asian/Pacific Islander	11	4.5
	Native American	6	2.4
	Other	4	1.6
Level of Education	Less than high school	3	1.2
	High school/GED	34	13.9
	Some college	120	49.0
	2-year college degree	20	8.2
	4-year college degree	57	23.3
	Master's degree or higher	11	4.5
Level of Employment	Management/Supervisory	101	41.2
	Line-level	144	58.8
Tenure in the hospitality industry	5 years or less	103	42.0
	6-10 years	68	27.8
	11-15 years	22	9.0
	16-20 years	18	7.3
	21 years and more	34	13.9

Table 2 reports the mean, standard deviation, and correlations of each construct. The means ranged from 5.03 to 5.77 and the standard deviations ranged from 1.34 to 1.85. The bivariate correlations showed that the constructs were significantly and positively related. The correlation coefficients ranged from .207 to .794, suggesting weak to strong correlations among the latent variables (see Table 2).

Table 2. Descriptive Statistics and Correlations

Construct	Mean	SD	PU	PBC	SN	EOU	AOC	INT
Perceived Usefulness (PU)	5.09	1.85	1					
Perceived Behavioural Control (PBC)	5.79	1.38	.315	1				
Subjective Norm (SN)	5.03	1.66	.487	.405	1			
Ease of Use (EOU)	5.74	1.36	.499	.692	.539	1		
Affective Commitment (AOC)	5.31	1.48	.207	.286	.304	.275	1	
Intention to Use (INT)	5.77	1.34	.381	.678	.491	.794	.403	1

Confirmatory Factor Analysis

Confirmatory factor analysis (CFA), using Mplus 7.0, was performed to evaluate the adequacy of the overall model fit. The estimation of the model was found to have a good fit: $\chi^2 = 144.36$ [df = 120], CFI = .996, TLI = .995, RMSEA = .029, and SRMR = .020. The reliability was tested using convergent reliability (CR), which assesses the internal consistency of a construct. The CR values for constructs were ranged from 0.947 to 0.975, which showed high internal scale consistency (Fornell & Larcker, 1981). In addition, the average variance extracted (AVE) was used to convergent validity, and all AVE values were higher than .5 which showed an adequate convergent validity (Hair, Anderson, Tatham, & Black, 2006). The standardized factor loadings, convergent reliability values, and average variance extracted values were displayed in Table 3.

Table 3. Standardized loadings, CR, and AVE values of measures

Measures for Constructs	Loading	CR	AVE
Perceived Behavioural Control		0.97	0.91
I can use the technology reasonably well on my own	0.97		
I can use the technology even if there was no one around to help me	0.95		
I feel comfortable using the technology on my own	0.95		
Perceived Usefulness		0.98	0.93
Using the technology in my job increases my productivity	0.97		
Using the technology improves my performance in my job	0.89		
Using the technology enhances my effectiveness in my job	0.92		
Subjective Norm		0.95	0.86
My colleagues think that I should use the technology	0.96		
My supervisor always encourages me to use the technology	0.93		
My guests perceive using the technology to be useful	0.88		
Perceived Ease of Use		0.96	0.88
I find the new technology to be easy to use	0.94		
My interaction with the new technology is clear and understandable	0.94		
Interacting with the new technology does not require a lot of my mental effort	0.92		
Affective Commitment		0.95	0.86
This organization has a great deal of personal meaning for me	0.97		
I feel a strong sense of belonging to my organization	0.96		
I feel 'emotionally attached' to this organization	0.97		
Intention to Use		0.95	0.86
I want to use the technology for my work	0.96		

It is likely that I will use the technology for my future work	0.94		
I will spend time and effort to learn the technology in the future	0.92		

Structural Model

Structural equation modelling was used to assess the structural relationships proposed in Figure 1. The full measurement model consisted of six constructs and 18 measurement items. The fit statistics of the structural model were $\chi^2 = 153.65$ [df = 123], CFI = .995, TLI = .993, RMSEA = .032, and SRMR = .046. In addition, the chi-square to degree of freedom ratio was 1.25, which indicates a good fit. The model with the supported hypotheses is shown in Figure 2.

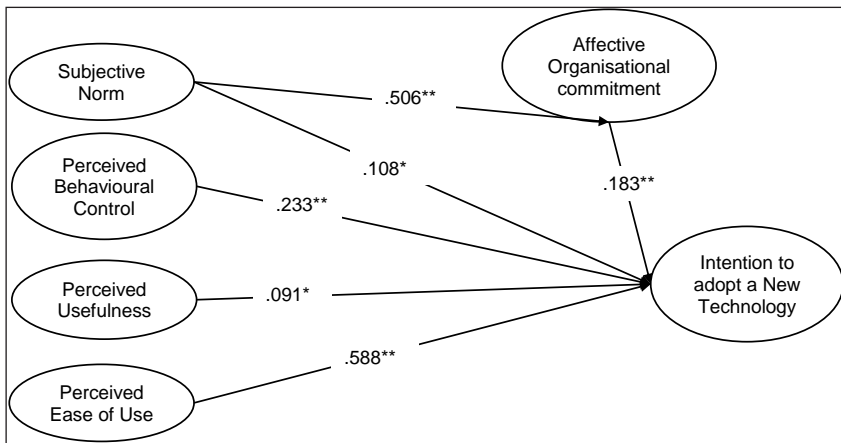


Figure 2. Final Model

Hypothesis one proposed that subjective norm positively affect hospitality employees' intention to adopt a new technology. Results of the structural model showed support for this hypothesis ($\beta = .108, t = 2.288, p < .05$); therefore, the employees' perception that the people who are important to them (e.g., co-workers, supervisors, or guests) think they should use a new technology have a positive effect on their intention to adopt the new technology.

Hypothesis two, which proposed a positive relationship between perceived behavioural control and intention to adopt a new technology, was also supported ($\beta = .233, t = 4.437, p < .01$). If the employees perceive that they have the knowledge, resources, and experiences to use the new

technology, their intention to adopt the new technology increases.

Hypothesis three, which postulated a positive relationship between perceived usefulness and intention to adopt a new technology, was supported ($\beta = .091, t = 2.226, p < .05$); thus, the employees who believe that the new technology will increase their job performance will more likely adopt the new technology.

Hypothesis four proposed that perceived ease of use positively influence employees' intention to adopt a new technology, and it was supported. Based on the results ($\beta = .588, t = 10.471, p < .01$), employees are more likely to adopt the new technology if they feel that it is easy to use.

Hypothesis five proposed that affective organisational commitment mediates the relationships between the four antecedent constructs (subjective norm, perceived behavioural control, perceived usefulness, and perceived ease of use) and intention to adopt a new technology. The results indicated that affective organisational commitment mediates the relationship between subjective norm and intention to adopt new technologies ($\beta = .093, t = 3.881, p < .01$). This suggested the partial mediation effect of affective organisational commitment on the relationship between subjective norm and intention to adopt a new technology. However, affective commitment did not have any mediating effects between perceived behavioural control, perceived usefulness, and perceived ease of use and intention to adopt a new technology.

Discussion and Conclusion

Findings

This study aims to determine how organisational commitments have an impact on the adoption of new technologies in the hospitality industry. A total of four major independent variables from both the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) were applied in this study.

Four out of five hypotheses were fully supported. Hypothesis five was only partially supported. Perceived behavioural control, usefulness, and ease of use did not have a strong relationship with organisational commitment. Also, affective organisational commitment did not mediate between perceived behavioural control, usefulness, and ease of use and intention to adopt new technologies. However, subjective norm had a strong relationship with

affective organisational commitment, which had a relationship with intention to adopt new technologies. Furthermore, organisational commitment mediated subjective norm and the intention to adopt new technologies in the hospitality industry.

Consistent with previous research (Venkatash and Davis, 2000; Mullan et al., 2013), subjective norm, perceived behavioural control, usefulness, and ease of use had strong relationships with intention to adopt new technologies.

We designed this study to identify the relationship among antecedents of adoption new technologies, affective organisational commitment, and intention to adopt new technologies in the hospitality industry. Especially, how affective organisational commitment have an impact on employees' intention to adopt new technologies.

In the workplaces, employees will use a new technology, whether they like it or not. Previous studies shows precedents such as perceived usefulness, ease of use, behavioural control, and subjective norm that lead employees' intention to adopt a new technologies in the workplaces. Adopting a new technology can increase employees' stress because they have to learn new technologies and might give them lower job security because adopting new technologies can replace current employees. Therefore, practitioners should be careful when they adopt a new technology.

In the results, we figured out that employees who are influenced their behaviours by significant others such as supervisors, co-workers, and customers, can be more affectively committed to companies. Furthermore, the results suggested that an affectively committed employees are more willing to adopt new technologies.

Implications

We suggest some implications for practitioners in the hospitality industry. Traditionally, human resources issues are prevalent in the hospitality industry, therefore, practitioners should pay more attention to what employees expect from companies. When practitioners adopt a new technology for the company, they should be concerned not only with what the customers want, but also with how the employees will think about it. It will help to retain qualified employees.

According to the results of this study, employees who are influenced by other people who are important for employees such as managers or supervisors

have a strong relationship with organisational commitment. Practitioners have to ensure that supervisory position employees need are encouraging employees to adopt new technologies. Furthermore, managers need to explain why the new technologies are beneficial to everyone.

Whenever employers adopt a new technology in the workplace, they should expect employee resistance. Results shows that committed employees are more likely to adopting new technologies. When employees feel the new technology easy or useful, they will adopt the new technology with less stresses and resistances. Practitioners can provide training sessions for employees to familiarize them with the new technology and emphasize how the new technology will make work easier.

Practitioners should consider creating an open company culture which promotes communication, not only with colleagues, but also with supervisors. By communicating with others, employees understand the need for new technologies to improve productivity. In addition, practitioners can explain to employees that adopting new technologies is one of the best ways to meet customers' expectations.

Limitation and Future Research

As with most research, there are several limitations associated with this study. The survey was distributed to the online panel database provided by a commercial survey company. This method may excluded hospitality employees who did not have an internet access; therefore, the results may not be generalizable to the whole hospitality employees. A paper-and-pencil survey may have generated different results compared to the current study because it may have reached a broader population. In addition, this research was only available to employees who are part of the Qualtrics panel, and they may have manipulated their answers based on what they thought would be "right" or did not answer truthfully. Therefore, the results may have been different if the questionnaire was available to a different sample of hospitality employees.

Since the sample was a cross-sectional sample. A longitudinal survey may be needed to investigate the dynamic of the relationships among subjective norm, organisational commitment and adoption intentions.

The size of the sample was another limitation. According to Jackson (2003), the minimum sample size should be calculated in terms of the ratio of cases (N) to the number of model parameters that require statistical estimates

(q). The desirable ratio of N:q would be 20:1, and the less ideal, but acceptable ratio of N:q is 10:1. In this study, there were only three items allowed on each factor. If there were more items in each construct, it may have shown a bigger picture of each factor.

Other factors such as gender, age, and education levels may have an impact on the adoption of new technologies in the workplace. With a larger sample size, future study can investigate how these demographic variables moderate the relationships in the model. For example, researchers can compare the difference of perspectives about adopting new technologies between supervisory position employees and line level employees in the hospitality industry. Since managers and supervisors should have more information and knowledge about new technologies than entry level employees, it may lead to more stress on the managerial position employees. The results for managerial position employees will be different compared to line level employees.

Lastly, the hospitality industry includes many different industry sectors such as lodging, restaurant, airline, event, etc. Each hospitality sector's employees could have different perspectives for new technologies. Employees in each sector of the industry work in different circumstances and provide services for different type of guests. If future researchers conduct surveys for employees in each sector, it may show different results.

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