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Antecedents And Outcomes of Online Social Networks (OSN) Usage among Public Sector Employees

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Abstract--- *The new technologies are enabling organizations to be flatter, networked, and more flexible. Organizations in the 21st century inevitably make substantial investments in Information Technology (IT) in order to achieve competitive advantage, by spending enormous sums of money on computer hardware, software, communication networks, databases and specialized personnel. Consequently, Information Technology is not exclusive to the workplace but has also become widespread in public areas and houses. The main objective of this study is to determine factors influencing the adoption and impact of online social networks use in terms of performance among employees within Tourism Development and Investment Company (TDIC) in Abu Dhabi. This study collected data through quota nonprobability sampling, and 401 valid responses were received. Structural Equation Modelling-Variance based (SEM-VB) through partial least squares (PLS) method to analyse the research model using the software of SmartPLS 3.0. Although various limitations exist, the findings have been encouraging, as it has managed to shed some lights on new variables affecting the use of online social networks. This study proposed an extended model of the Unified Theory of Acceptance & use of Technology (UTAUT) and found that three variables play an important role to determine the performance impact of online social networks namely performance expectancy, effort expectancy, and actual usage. The findings of this study can provide policymakers with important insights on how to more successfully incorporate online social networks to improve performance and the services of public sector, and how to encourage top managers to ensure that employees are more likely to utilize new technologies and thereby enabling better work outcome, wider reach of services, gives employees more control over their daily tasks and enhances their performance.*

Keywords--- *Online Social Networks;Performance expectancy; effort expectancy; social influence; facilitating conditions; performance impact.*

I. INTRODUCTION

Evolution in information technology (IT) is the most prominent as well as active aspect impacting workers and business entities today, expanding substantively and emerging as a driver of further advancement (Kassim, Ramayah, & Kurnia, 2012), as companies worldwide strive to stay in touch with the evolving technology. A key sector impacted by the growth in IT is the public sector.

The swift pace of transformation in a business entity's environment has constantly pressed the need for technologies

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and fast-track approval of these technologies. The noveltechnologies are allowing business entities to be flatter, better linked, and more adaptable. Organisations today are inexorably making heavy investments in Information Technology (IT) for attaining a competitive edge, by spending huge money on software, computer hardware, databases, communication networks, and specialised personnel (Kripanont, 2007). As a result, IT is not just limited to the workplace but is also quite prevalent in public areas and communities. Technology is going to give us the tools to make us independent, imagine the world which everything becomes an application on the internet (McNamee, 2011).Public finance aims to enable increasing economic growth and to end poverty, however, the corruption, reduces revenue and it increases illegal public expenditure. More and more countries have focused on the use of ICT in its activities to strengthen its reform process with transparency as a necessary ingredient of good financial governance(Ameen & Ahmad, 2011, 2013a, 2017; Baharuden, Isaac, & Ameen, 2019)

Notably, according to past research, use of technology can drive improved performance as well as productivity (Delone & Mclean, 1992; Delone & Mclean, 2003; Norzaidi & Salwani, 2009; Makokha & Ochieng, 2014).

Online and internet technology applications and services have rapidly turned to be an indispensable in the daily life of most individuals and significantly impacted every facet of operations in organizations (Greengard, 2015; Annunziata, 2013). Furthermore, they have evolved into an indispensable platform for knowledge management systems that enhance task efficacy, knowledge acquisition, and decision and communication quality (Cheung, Chang, & Lai, 2000; Parveen & Sulaiman, 2008; Curran, Fenton, & Freedman, 2016). This is evidenced by the number of online users in the world today (3,424,971,237) compared to 1993 (14,161,570) (Internet Live Stats, 2016) as shown in figure 1.1.

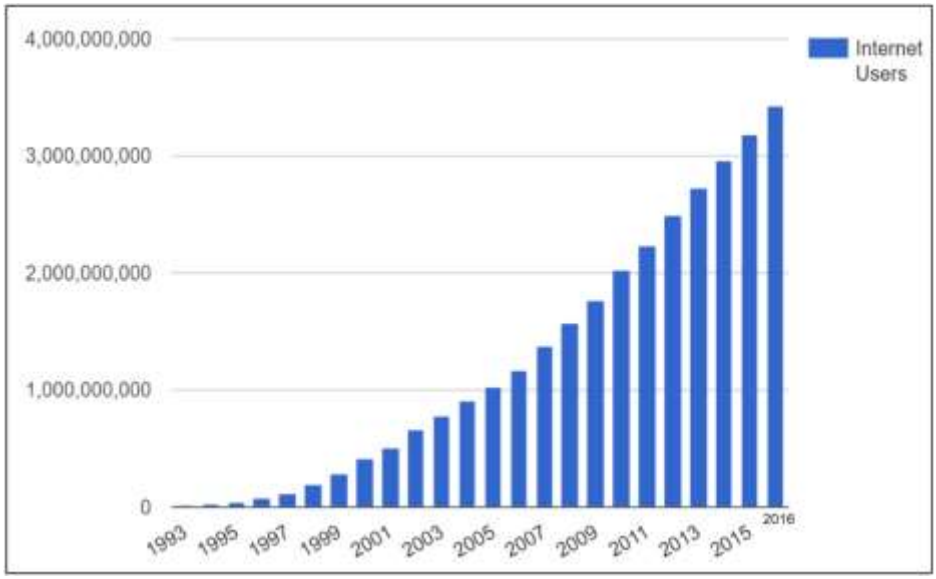

Figure 1: Online users in the world
Source: (Internet Live Stats, 2016)

Online social networks (OSN), also called social networking sites, social networking service, social media sites, social media portals, social media platforms, or simply a phenomenon are still a matter of deliberation (Cocosila & Igonor, 2015). In most contemporary organizations, adopting technology is not only uses ICT to fill up some forms and records but rather it is also a tool that performs the process of identification, accumulation, analysis, measurement, preparation, interpretation and communication of the information used by management to plan(Ameen & Ahmad, 2011,

2013b, 2014;Ameen et al., 2019). It is used in evaluating and controlling within an organization and to assure appropriate use and accountability for their resources(Ameen & Ahmad, 2011, 2012, 2013a).OSN is a fast-growing internet platform. Some research works have linked the internet and OSN to organisational performance (Wang & Hou, 2003; Chen, 2008), while some highlight that internet platforms enhance task efficacy, knowledge acquisition, and decision and communication quality (Isaac, et al., 2016). The rise in OSN users globally (see figure 1.4) on leading sites like Twitter, Facebook, WhatsApp and LinkedIn (see figure 1.5) entails initiatives and research for understanding this phenomenon better and how business entities can capitalise on them. As per (Arab Social Media Report, 2015), online social sites in the Gulf are seen as having several positive factors which improve the quality of life of people, business profitability and administration's interaction with the community.

This research work emphasises on use of technology within the UAE's public sector instead of the private sector in accordance with the recommendation of Venkatesh et al. (2003) who stated that prospective research works on use of technology should highlight and bridge the gap from the perspective of the public sector.

Various global indicators have created a clear image that help in understanding the position of country level according to a set of measures that are recognized internationally.(Al-Ali, Ameen, Issac, Nusari, & Ibrhim Alrajawi, 2018; Al-Obthani, Ameen, Nusari, & Alrajawy, 2018; AlShamsi, Ameen, Isaac, Al-Shibami, & Sayed Khalifa, 2018; Haddad, Ameen, & Mukred, 2018).Several earlier research works on the use and espousal of information technology have only emphasised on the actual use as an outcome construct (Cheng, 2014; Cheung & Vogel, 2013; Fatimah, Ahmad, Downe, & Lai, 2011; Fusilier & Durlabhji, 2005; Gao, Design, & Deng, 2012; Hong, & Kang, 2011; Iqbal & Qureshi, 2012; Joo & Sang, 2013; Lee et al., 2011). Some noteworthy works have tried to bridge the gap by taking into account the relationship between actual use and individual/organisational performance (Hou, 2012; Norzaidi et al., 2007;Norzaidi & Salwani, 2009; Son et al., 2012).

To bridge the gap stated above, the key goal of this work is to scrutinise the precursors of online social network use and its effect on the performance of public sector workers.

II. LITERATURE REVIEW

II.I. Performance Expectancy (PE)

Performance expectancy is described as the extent in which a person accepts that using an information system would help him improve in work performance (Venkatesh et al., 2003). Much research has shown that perceived usefulnessfactors or performance expectancies play a major role within the contexts of information systems (Alrajawy et al., 2016;Venkatesh, Thong, Chan, Hu, & Brown, 2011; Ramayah, 2006;Al-Ali, Ameen, Isaac, Khalifa, & Hamoud, 2019; AlShamsi et al., 2018). Other researchers have determined that higher performance expectancy leads to higher real-world use of the system (Zhou, Lu, & Wang, 2010;Al-Qeisi, Dennis, Alamanos, & Jayawardhena, 2014; Faaeq, Alqasa, & Al-Matari, 2014; Wu, Tao, & Yang, 2007). This is reflected in other findings that indicate a positive relationship between usage behaviours and performance expectancy (Tan & Lau, 2016;Raman & Don, 2013;Moghawemi, Salleh, Zhao, & Mattila, 2012; Raman et al., 2014; Datta, 2011; Lin & Anol, 2008;Wang, Hung, & Chou, 2006; Ramayah, Ignatius, & Aafaqi, 2005). Nevertheless, (Lian, 2015;Yueh, Huang, & Chang, 2015; Faraliza, Noor, Azmi, & Ramalingam, 2014; Singeh, Abrizah, & Karim, 2013) determined that no relationships exist between

usage behaviours and performance expectancy. A hypothesis are therefore suggested:

H1:Performance expectancyhas a positive effect on actual usage of online social networks.

II.II. Effort Expectancy (EE)

Venkatesh et al., (2003) described apparent ease of use or effort expectancy as the extent to which ease is associated with systems usage. It remains among the central factors of technological use and adoption (Mutahar et al., 2016; Seppo Pahnila, 2011; (Ramayah & Lo, 2007)). Much research has been carried out on the impact of effort expectancy on real-world use of information systems. Based on (Martins, Oliveira, & Popovič, 2014), positive relationships between systems usage and effort expectancy appear to exist within the contexts of online banking. Much research in varied contexts and technological usages has focused on this aspect (Im, Hong, & Kang, 2011; Fang, 2014; Venkatesh, Thong, Chan, Hu, & Brown, 2011; Boonsawat & T.Naennab, 2014; Escobar-Rodríguez & Carvajal-Trujillo, 2014; Chia-Lin Hsu, Chen, Lin, Chang, & Hsieh, 2014). Conversely, other researchers have discovered that effort expectancy cannot predict usage behaviours (Guo, 2015; Zhou, 2008; Zhou, Lu, & Wang, 2010; Toh, 2013; Yang, 2013; Ayankunle Adegbite Taiwo, Ahmad Kamil Mahmood, 2012). Thus, the following hypotheses are proposed:

H2:Effort expectancyhas a positive effect on actual usage of online social networks.

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II.III. Actual Usage (USE)

Real-world usage is described as the extent and ways in which users apply the features of a particular information system. Considerations would involve the level, frequency, appropriateness, degree, purpose, as well as the nature of such uses (DeLone & McLean, 2016). Furthermore, Kim et al. (2007) implied that this involves the frequency and use of the technology as well as usage frequencies. As well, real-world usage is described in terms of consumption within an information system or else its output as described in practical or self-reported uses (Petter & McLean, 2009). In this research, usage is described as the extent and ways in which in which students apply the features of online social media networks. Actual usage is considered as one of the core constructs in the IS field, literature is full of studies where actual usage is used in numerous contexts and applications because it is the goal of any technology or application. In research on IS activities in Mexico, Abrego-Almazán et al. (2017) discovered that usage constructs have a meaningful positive association with organisational results. Likewise, Kim et al. (2015) concluded that systems usage has appreciable impact on individual performance in their review of mobile customer relationship management (M-CRM) within South Korea. Moreover, in a study in Yemen about internet usage, it was revealed that actual usage significantly influences both of performance impact and user satisfaction (Osama Isaac, Abdullah, Ramayah, & Mutahar, 2017a). While, Culibrk et al. (2016) in their study confirmed the significant impact that usage have on Net benefits and on user satisfaction as well.

Many studies investigated the role that usage play in e-learning and learning system adaption. Aparicio et al. (2017) discovered that usage meaningfully affected individual behaviours in Portugal. Moreover, (Wang et al., 2014) showed the same association in their studies. Within the mobile banking context, Tam & Oliveira (2016) also established a meaningful positive association between individual performances and usage. Furthermore, research in Malaysia showed a meaningful impact from real-world usage in terms of user satisfaction and performance (Norzaidi, 2008). Consequently, the following hypotheses are proposed:

H3:Actual usage of online social networkshas a positive effect on performance impact.

II.IV. Performance Impact (PI)

Norzaidi et al. (2007) described performance impacts regarding the extent to which use of a system helps enhance work quality, complete tasks rapidly, enable more control over tasks, improve work performance, reduce errors, and increase effectiveness in the workplace. Benedetto et al. (2003) accounted for performance impacts in terms of information systems usage improving workplace efficiency, enhancing problem identification, and raising productivity. In this research, performance effect is described as the extent to which online social learning influences student performance based on savings in resources, increased productivity, knowledge acquisition, and enhanced competence (Osama Isaac, Abdullah, Ramayah, & Mutahar, 2017a).

III. RESEARCHMETHOD

III.I. Overview of the Proposed Conceptual Framework

The underpinning theory used in this study is UTAUT. However, UTAUT disregards any focus on evaluating technology usage, such as performance impact. Evaluating information system (IS) throughuser performance is strongly

recommended to measure the success of IS (Montesdioca & Maçada, 2014). Thus, this study has extended UTAUT to include the performance impact that was used from DMISM of DeLone & McLean (2003). Figure 2 depicts the conceptual framework of the current study

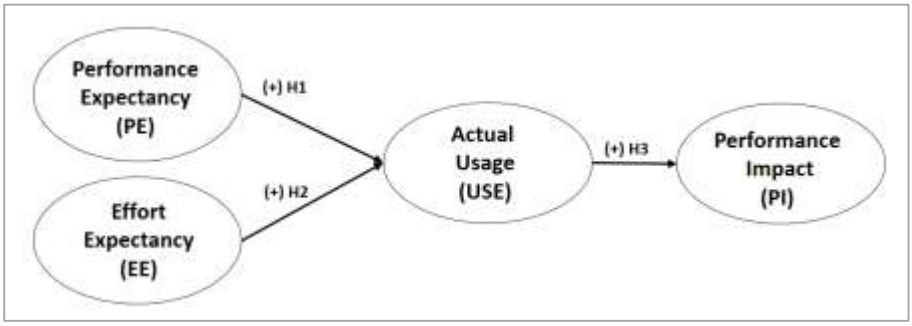

***Figure 2*:The conceptual framework**

III.II. Development of Instrument and Data collection

The appropriate data collection method in any given study will depend on the research problem involved (Tull & Hawkins, 1984). The most acceptable means of generating primary data sources would be survey instruments (Zikmund, Babin, Carr, & Griffin, 2010). This study employs quantitative data, which are collected following the rules of statistical surveys. Variables were measured using a Likert Scale which recommended in the previous studies (Isaac, Aldholay, Abdullah, & Ramayah, 2019; Isaac, Abdullah, Ramayah, & Mutahar, 2017; Isaac, Abdullah, Ramayah, Mutahar, & Alrajawy, 2017).

Respondents comprised staff from the Tourism Development and Investment Company (TDIC) in Abu Dhabi, UAE who have used or are using social media networks. A personally administered survey form was disseminated by the researcher to gather data from respondents drawn from the sample research populations.

As numerous organisations and groups are involved, the researchers adopted non-probability quota sampling (Cooper & Schindler, 2014). Of the 750 questionnaires disseminated, 443 sets were returned, wherein 401 responses proved to be useful for analysis. For researchers,the response rate approaches 59.07%, which is to be considered as decent (Baruch & Holtom, 2008) in comparison to other papers in the associated literature.

IV. DATA ANALYSIS AND RESULTS

PLS (Partial Least Squares) SEM-VB (Structural Equation Modelling-Variance Based) was employed to assess the research model by utilizing the software SmartPLS 3.0 (Ringle, Wende, & Becker, 2015). Analysing Data through the second-generation multivariate data analysis technique which is SEM offers a simultaneous analysis which leads to more accurate estimates (Osama Isaac, Abdullah, Ramayah, Mutahar, & Alrajawy, 2018; Osama Isaac, Abdullah, Ramayah, & Mutahar, 2018).

IV.I. *Measurement Model Assessment*

The individual Cronbach's alpha, the composite reliability (CR), The average variance extracted (AVE), and the factor loadingsexceeded the suggested value (Kline, 2010;Hair, Black, Babin, & Anderson, 2010)as illustrated in Table 1.

Table 1: ***Measurement model assessmen***

Constructs	Item	Loading (> 0.7)	M	SD	α (> 0.7)	CR (> 0.7)	AVE (> 0.5)
Performance Expectancy (PE)	PE1	0.925	3.405	1.025	0.914	0.946	0.854
	PE2	0.921					
	PE3	0.926					
	PE4	Deleted					
Effort Expectancy (EE)	EE1	0.928	3.395	1.037	0.914	0.946	0.854
	EE2	0.920					
	EE3	0.923					
Actual Usage (USE)	USE1	0.894	3.201	0.969	0.887	0.93	0.815
	USE2	0.905					
	USE3	0.910					
Performance Impact (PI)	PI1	0.838	3.268	0.903	0.943	0.951	0.661
	PI2	0.828					
	PI3	0.842					
	PI4	0.853					
	PI5	0.831					
	PI6	0.816					
	PI7	0.823					
	PI8	0.830					
	PI9	Deleted					
	PI10	0.730					
	PI11	0.731					

Note: M=Mean; SD=Standard Deviation, α= Cronbach's alpha; CR = Composite Reliability, AVE = Average Variance Extracted.
Key: PE: performance expectancy, EE: effort expectancy, USE: actual usage, PI: performance impact.

The degree to which the articles distinguish among concepts or measure different constructs is demonstrated by discriminant validity. Fornell-Larcker was employed to analyze the measurement model's discriminant validity.Table 2 shows the outcomes for discriminant validity by employing the Fornell-Larcker condition. It was discovered that the AVEs' square root on the diagonals (displayed in bold) is bigger than the correlations among constructs (corresponding row as well as column values), suggesting a strong association between the concepts and their respective markers in comparison to the other concepts in the model (Fornell & Larcker, 1981; Chin, 1998). According to Hair et al. (2017), this indicates good discriminant validity. Furthermore, exogenous constructs have a correlation of less than 0.85 (Awang, 2014). Therefore, all constructs had their discriminant validity fulfilled satisfactorily.

Table 2: ***Fornell-Larcker criterion***

	EE	*PE*	*PI*	*USE*
EE	**0.924**			
PE	0.646	**0.924**		
PI	0.554	0.510	**0.813**	
USE	0.569	0.561	0.645	**0.903**

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the correlations.
Key: PE: performance expectancy, EE: effort expectancy, USE: actual usage, PI: performance impact

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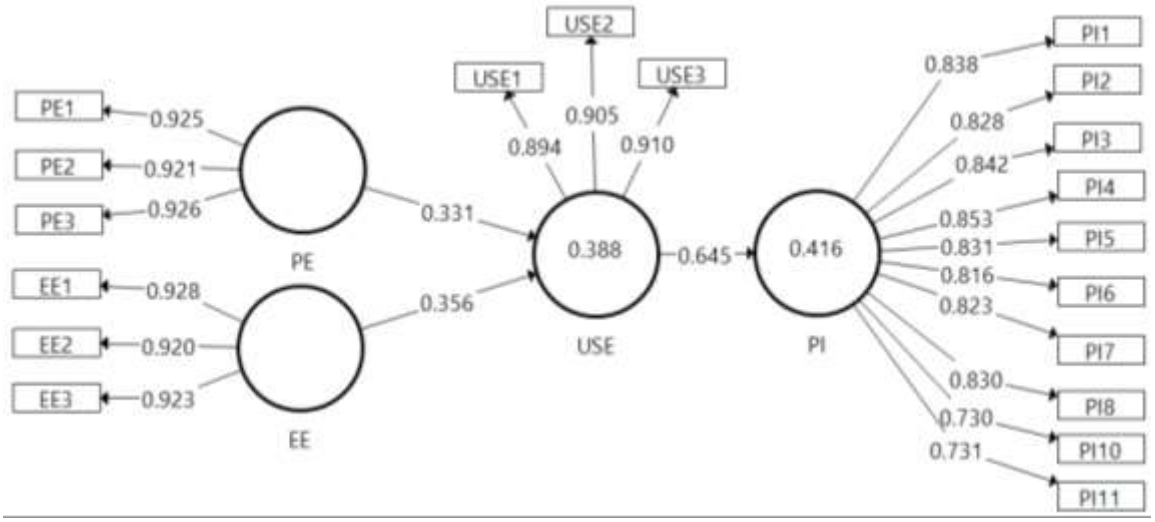
IV.II. Structural Model Assessment

The structural model can be tested by computing beta (β), R^2, and the corresponding *t*-values via a bootstrapping procedure with a resample of 5,000 (Hair, Hult, Ringle, & Sarstedt, 2017).



Key: PE: performance expectancy, EE: effort expectancy, USE: actual usage, PI: performance impact

***Figure 2*:PLS algorithm results**

Figure 2 and Table 3 depict the structural model assessment, showing the resultsof the hypothesis tests. Performance expectancy and effort expectancy positively influence actual usage of online social networks.Hence, H1 and H2are accepted with ($\beta = 0.331$, t= 5.751, p <0.001) and ($\beta = 0.356$, t= 6.719, p <0.001) respectively. Actual usage of online social networks positivelyinfluencesperformance impact.Hence, H3 is accepted with ($\beta = 0.645$, t= 18.863, p <0.001). Performance expectancy and effort expectancy explains thirty-ninepercent of the variance in actual usage of online social networks.And actual usage of online social networks explains forty-two percent of the variance in performance impact. The values of R^2 have an acceptable level of explanatory power, indicating a substantial model (Cohen, 1988;Chin, 1998).

Table 3: *Result* of *Direct Effect Hypotheses*

Hypothesis	Relationship	Std Beta	Std Error	t-value	p-value	Decision	R^2
H1	PE→USE	0.331	0.058	5.751	0.000	Supported	0.39
H2	EE→USE	0.356	0.053	6.719	0.000	Supported	
H3	USE→PI	0.645	0.034	18.863	0.000	Supported	0.42

Key: PE: performance expectancy, EE: effort expectancy, USE: actual usage, PI: performance impact

V. DISCUSSION

This section will discuss the findings. The general aim of this research is to examine the contexts and effects of social media network usage among staff in the Tourism Development and Investment Company (TDIC).

The first research objective is to determine the effect of any expectations of performance on practical usage among TDIC staff. The objective posits a single hypothesis for testing, in that performance expectancy significantly affects online social media network usage.Performance expectancy was discovered to positively influence real-world usage of social media networks among TDIC staff, with (β = 0.331, t= 5.751, p <0.001). This influence aligns with findings from previous research (Wu, Tao, & Yang, 2007; Al-Qeisi, Dennis, Alamanos, & Jayawardhena, 2014; Zhou, Lu, & Wang, 2010), which is shown in observations that the more useful these online social platforms are in daily work and life settings as well as in increasing productivity while improving performance, the more regular their usage. The platforms will come to be regarded as the desired means of communication as these are promoted to colleagues. Nevertheless, the outcome challenges (Hsu et al., 2014) who had determined the absence of any relationship between real-world usage and performance expectancy. This puzzling outcome might support the findings of (Al-Qeisi, 2009; Kripanont, 2007; Straub, Keil, & Brenner, 1997; Isaac, Abdullah, Ramayah, & Mutahar, 2017) who found that theories of technology adoption do not equally apply across varied contexts. In summary, the outcome is validated, as has been suggested regarding technology usage in the literature, in that performance expectancy remains key to understanding social media network usage among staff in the Tourism Development and Investment Company (TDIC) in Abu Dhabi. Hence, H1 is achieved.

Additionally, effort expectancy was discovered to positively influence real-world usage of social media networks among TDIC staff. This influence aligns with findings from previous research (Yueh, Huang, & Chang, 2015; Faaeq, Alqasa, & Al-Matari, 2014; Chia-Lin Hsu, Chen, Lin, Chang, & Hsieh, 2014), as shown in the observation that the more social media platforms offer ease of use as well as clear and flexible interactions, the more regular their usage. These platforms will come to be regarded as the preferred mode of communications as their benefits are promoted to colleagues. Thus, H2 is achieved.

Moreover, it was seen that actual usage had a positive impact on the performance pertaining to online social networks amongst employees who were associated with the Tourism Development and Investment Company (TDIC) in Abu Dhabi. Earlier research works (Isaac, Abdullah, Ramayah, & Mutahar, 2017c; Stefanovic et al., 2016; Ramirez-Correa et al., 2017) support this effect. This can be described by the fact that the online social networks are used regularly and are regarded as a better mode of communication, along with promoting its use amongst colleagues. This results in performance improvement in three aspects: knowledge acquisition (gain new knowledge and hone skills, bring innovative ideas, assist in learning), efficiency (accomplish/complete tasks swiftly, easily, and cost-effectively) and productivity (improve academic productivity as well as learning performance), while also moderately improving the competence pertaining to fourth dimension (realise future targets as well as minimise errors). However, this result is in contrast to the work of Norzaidi (2008) and Wu & Wang (2006) who demonstrated insignificant relationship existing between impact on performance as well as satisfaction of the user. This could be due to its reliance on the technology application that is being evaluated. Thus, H3 is achieved.

VI. IMPLICATIONS

Significant benefits are achieved based on the implications of key findings for both individual employees as well as the UAE public sector of the country if this information technology is employed. By making use of the findings described in part 4, various practical implications could be identified, like motivating employees to completely leverage online social networks for their work as well as enhancing professional development, practice as well as work quality. The findings from this study will be beneficial for individuals. For the individuals level, studies have revealed that online platforms usage improve the efficiency, knowledge acquisition, and decision quality for individuals (Isaac, et al., 2016; Norzaidi and Salwani, 2009; Norzaidi et al., 2007; Wu and Wang, 2006).

VII. CONCLUSION

This study aims to determine factors that can impact the adoption as well as influence the utilisation of online social networks with regards to performance amongst employees associated with Tourism Development and Investment Company (TDIC) in Abu Dhabi. Even though there are different limitations, the findings were promising, as it helped to provide insights on new variables impacting the application of online social networks. This study puts forward an extended model pertaining to the Unified Theory of Acceptance & use of Technology (UTAUT), which shows that there are three variables that play a key role in measuring the performance impact pertaining to online social networks, namely effort expectancy, performance expectancy and actual usage. The findings of this study can provide policymakers with important insights on how to more successfully incorporate online social networks to improve performance and the services of public sector, and how to encourage top managers to ensure that employees are more likely to utilize new technologies and thereby enabling better work outcome, wider reach of services, gives employees more control over their daily tasks and enhances their performance.

Appendix

Appendix A

Instrument for varibles

Varible	*Measure*	*Source*
Performance Expectancy (PE)	PE1: I find the usage of online social networks useful in my job. PE2: I find the usage of online social networks useful in my daily life. PE3: Using the usage of online social networks increases my productivity. PE4: Using the online social networks improve my performance.	(Martins et al., 2014)(Cheng, Liu, Qian, & Song, 2013)(Moghawemi et al., 2012)(Lian, 2015)
Effort Expectancy (EE)	EE1: I find the online social networks easy to use. EE2: I find the online social networks flexible to interact with. EE3: My interaction with the online social networks is clear and understandable.	(Tomás Escobar-Rodríguez, Carvajal-Trujillo, & Monge-Lozano, 2014)(Cheng et al., 2013) (Venkatesh, Thong, & Xu, 2012)
Actual Usage (USE)	USE1: I regularly use online social networks. USE2: I prefer the communication through the online social networks. USE3: I promote the use of online social networks to my colleagues.	(Nistor, Lerche, Weinberger, Ceobanu, & Heymann, 2014)(Lin, 2007)
Performance Impact (PI)	PI1: Online social networks help me to accomplish my tasks more quickly. PI2: Online social networks make it easier to complete my tasks. PI3: Online social networks help me acquire new knowledge PI4: Online social networks help me acquire new skills. PI5: Online social networks help me to come up with innovative ideas. PI6: Online social networks help me to learn. PI7: The use of Online social networks improves communication between employees. PI8: The use of Online social networks improves communication between the employees and the clients. PI9: The use of Online social networks improves employee's discussions. PI10: Online social networks help me involve others in making decisions. PI11: Online social networks help to share my general knowledge.	(H.-W. Kim et al., 2007)(Khayun & Ractham, 2011) (J. H. Wu & Wang, 2006)(Isaac, et al., 2016)(J. H. Wu & Wang, 2006) (Hou, 2012)(Princely, 2014)(Datta, 2011)(Liu, Li, & Carlsson, 2010)

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