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The Mediating Effect of Facilitating Conditions on The Relationship Between Actual Usage of Online Social Networks (OSN) And User Satisfaction

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Abstract--- *The rapid rate of change in the organization's environment has continuously pushed the need for technologies and acceptance of these technologies at an accelerating rate. 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. The main objective of this study is to determine factors influencing the user satisfaction of online social networks use 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 user satisfaction of online social networks. This study proposed an extended model of the Unified Theory of Acceptance & use of Technology (UTAUT) and found that two variables play an important role to determine the performance impact of online social networks namely actual usage and facilitating condition. 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; facilitating conditions; user satisfaction.*

I. INTRODUCTION

The rapid changes that occur in an organisation's environment have resulted in the need for technologies as well as adoption of these technologies rapidly. Implementing these new technologies allows companies to remain networked, flattered and become more flexible. In the 21st century, companies inevitably invest a lot of money in Information Technology (IT) to gain a competitive advantage. This involves investing heavily in software, computer hardware,

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databases, specialised personnel and communication networks (Kripanont, 2007). Thus, IT is now not limited to the workplace but rather widely used even in houses and public areas. 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).It is clear that the UAE is trying to become a leading technology centre based on the innovation strategy of the 4th Industrial Revolution(Alkhateri, Asma S; Abuelhassan, Abuelhassan E; Khalifa, Gamal S A; Nusari, Mohammed; Ameen, 2018; Ameen, Almari, & Isaac, 2019).

It should be noted that studies have reported enhanced productivity and performance are achieved with technology usage (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). It has also become a crucial platform with regards to knowledge management system, which helps to enhance task efficiency, communication quality, knowledge acquisition and decision 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)

The rapid growth rate in global users of online social networks (Statista, 2017c), on popular platforms like Facebook, WhatsApp, LinkedIn and Twitter (Statista, 2017b), requires studies and initiatives in order to gain an understanding about this issue and how companies can reap benefits. As per (Arab Social Media Report, 2015), online social networks in the Arab world are believed to be possessing many positive aspects that improve individuals' quality of life, governmental-public interaction and business profitability.

Figure 1 presents a list of top countries worldwide in terms of active social network penetration. By comparing the number of active accounts based on the top social network for every country with that of the population, UAE topped the list with a 99% social network usage penetration (Statista, 2017a), representing a huge opportunity that can be exploited in both private and public sectors to enhance personal development, professional practice as well as quality of working life. Among the internet users in UAE, 100% use WhatsApp, 88% use Facebook, and 73% use YouTube(Radcliffe, 2016) (see figure 2). It is, therefore, relevant for scholars and organizations in UAE to understand how to utilize the use of OSN which leads to a major contribution to the development of both individuals and organizations.

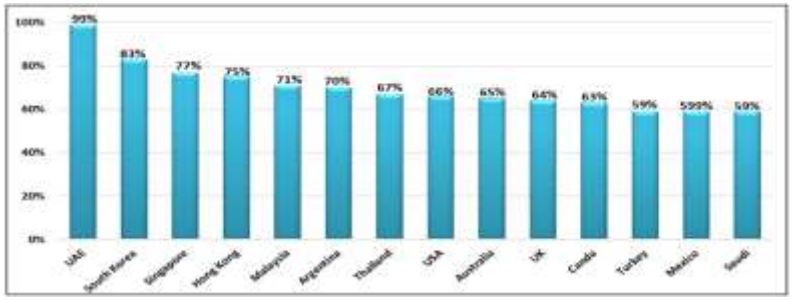


***Figure 1*: Active social network penetration**
Source: (Statista, 2017a)

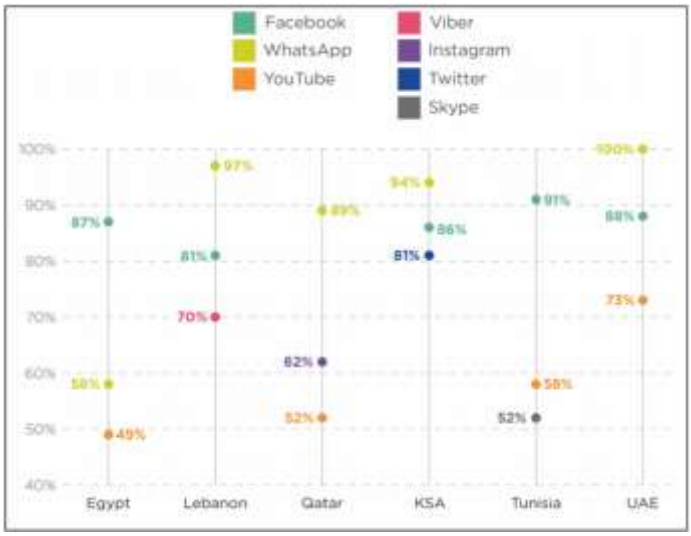


Figure 2: **Online social networks users in six select Arab countries (among the Internet users)**
Source: (Radcliffe, 2016)

There is a gap between the indicator regarding the importance of information and communications technology (ICTs) to government vision of the future which UAE ranked as number 1 in the world among 139 country and the indicator of the impact of ICTs on organizational which UAE ranked as number 10 (see figure 3). To address this gap, this study aims to determine the link between individual outcomes (performance impact) and use of technology (online social networks) within the UAE public sector.

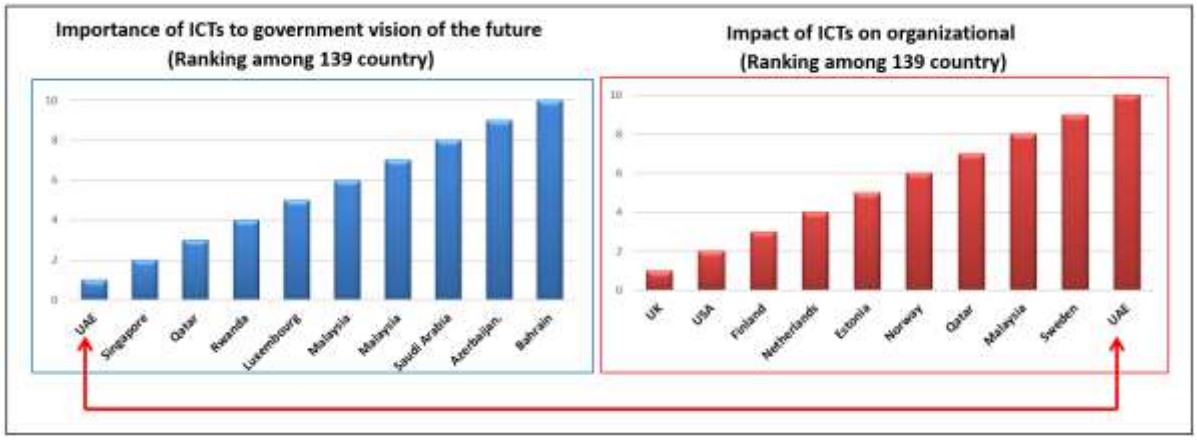


Figure 3**: Importance of ICTs to government vision of the future vs Impact of ICTs on Organizational performance**
Source: (Global Information Technology Report, 2016)

Instead of considering the private sector,this study primarily focuses on technology usage within the UAE public sector due to recommendation by Venkatesh et al. (2003) who stressed on future studies in terms of technology usage that needs to be focussed on filling the gap existing in the public sector.

II. LITERATURE REVIEW

II.I. User Satisfaction (SAT)

Wang, (2008); Wang & Liao, (2008); and Roca et al.(2006) has defined the user satisfaction as the degree to which users of online social networks are satisfied with their decision to use it and how fit it is to their expectations. User satisfaction is a manifestation of the attitude of someone towards certain computer application who is directly

interacting with (Norzaidi, 2008), whereas Almarashdeh (2016) described it as the degree to which users think a specific system or application fulfills their informational requirements. Moreover, user satisfaction refers to the perception that is based on whether user feels the system is useful and wants to use it again (Xinli, 2015).One of the essential factors is user satisfaction in which scholars need to take into concern when studying usage of a technology (DeLone & Mclean, 2003). Moreover, according to Montesdioca & Maçada(2015), evaluating IT viauser satisfaction is widely used to measure information system (IS) success.

II.II. 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 (Isaac, Abdullah, Ramayah, & Mutahar, 2017). 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). It is reasonable to mention that the increased use of certain technology by individuals, consequently organizations and companies will increase the provision of resources from software hardware and provide individuals with the facilitating conditions most appropriate for them to use. Thus, the following hypotheses are proposed:

H1:actual usage of online social networkshas a positive effect on facilitating conditions.

II.III. Facilitating Conditions (FC)

Facilitating conditions can be regarded as the extent to which an individual perceives an organisational and technical infrastructure to be existing that aids in system usage (Venkatesh et al., 2003). In the IS domain, facilitating such conditions is key to impacting individuals regarding the system usage (Guo, 2015). Suitable introduction, as well

as back-up, is needed prior to a company expecting its employees to implement any such innovations, to make sure that the technology has been fully exploited. An earlier study demonstrated that a positive influence was cast by facilitating conditions on usage behaviour in terms of learning management software implemented in Malaysia(Raman & Don, 2013). This bodes well with other studies that reported facilitating conditions could also allow predicting usage behaviour(Guo, 2015; Moghawemi, Salleh, Zhao, & Mattila, 2012; Wu, Tao, & Yang, 2007; Lin & Anol, 2008; Seppo Pahnila, 2011; Chang, 2013; Yu-Lung, Yu-Hui, & Pei-Chi, 2008; Arteaga Sánchez, Cortijo, & Javed, 2014). However, in contrast, there are certain studies that have reported that facilitating conditions do not seem to influence the usage behaviour(Lian, 2015; Yueh, Huang, & Chang, 2015; Martins, Oliveira, & Popovič, 2014; Fang, 2014; Singeh, Abrizah, & Karim, 2013; Singeh, Abrizah, & Karim, 2013). It is believed that if an organisation offers more facilitating conditions, it subsequently results in enhancement of user satisfaction. Consequently, the following hypotheses are proposed:

H2:Facilitating conditionshas a positive effect on user satisfaction.
H3:actual usage of online social networksindirectly affected the user satisfaction through Facilitating conditions.

III. RESEARCH METHOD

III.I. Overview of the Proposed Conceptual Framework

Figure 4 depicts the conceptual model that was built on the review on the literature review. Using UTAUT (Venkatesh & Zhang, 2010)as an underpinning theory. That was extended with user satisfaction from (Delone & Mclean, 2003)

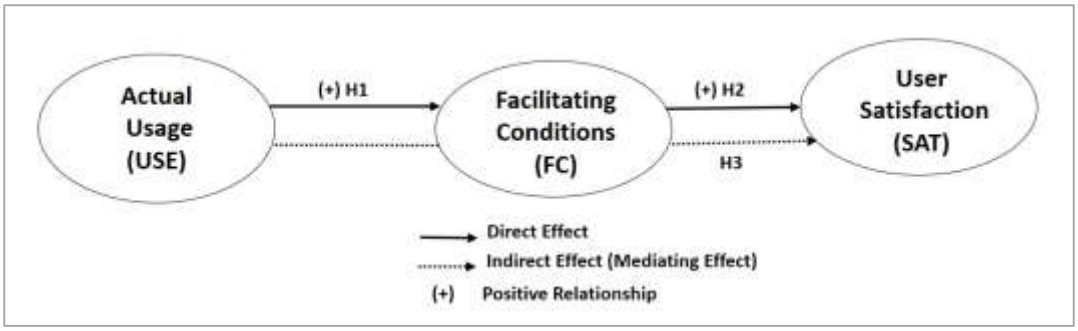


***Figure 4*:The conceptual framework**

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, 2013). 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)
Facilitating Conditions (FC)	FC1	0.935	3.333	1.091	0.927	0.953	0.872
	FC2	0.931					
	FC3	0.936					
Actual Usage (USE)	USE1	0.895	3.201	0.969	0.887	0.930	0.815
	USE2	0.905					
	USE3	0.909					
User Satisfaction (SAT)	SAT1	0.912	3.321	1.044	0.901	0.938	0.835
	SAT2	0.919					
	SAT3	0.910					

Note: M=Mean; SD=Standard Deviation, α= Cronbach's alpha; CR = Composite Reliability, AVE = Average Variance Extracted.
Key: USE: actual usage, FC: facilitating conditions, SAT: user satisfaction.

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.

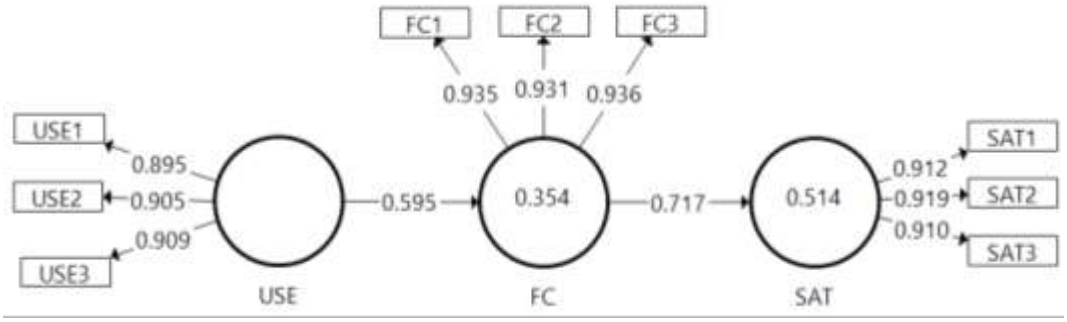
Table 2: Fornell-Larcker criterion

	FC	*SAT*	*USE*
FC	**0.934**		
SAT	0.717	**0.914**	
USE	0.595	0.562	**0.903**

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the correlations.
Key: USE: actual usage, FC: facilitating conditions, SAT: user satisfaction

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: USE: actual usage, FC: facilitating conditions, SAT: user satisfaction

Figure 2:PLS algorithm results

IV.II.I. Direct Effect Hypotheses

Figure 2 and Table 3 depict the structural model assessment, showing the resultsof the hypothesis tests. Actual usage of online social networkspositively influence facilitating conditions, H1is accepted with (□□□□□□□□□□□□□t□□□□□□□□□□□□p <0.001). Facilitating conditionspositively influence user satisfaction.Hence, H2 is accepted with (□□□□□□□□□□□□□t□□□□□□□□□□□□p <0.001). Actual usage of online social networksexplains thirty-fivepercent of the variance in facilitating conditions.And facilitating conditions explains fifty-onepercent of the variance in user satisfaction. 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	USE→FC	0.595	0.034	17.495	0.000	Supported	0.35
H2	FC→SAT	0.717	0.029	25.154	0.000	Supported	0.51

Key: USE: actual usage, FC: facilitating conditions, SAT: user satisfaction

IV.II.II. Indirect Effect Hypotheses

The researchers applied the Preacher and Hayes (2004; 2008) method for bootstrapping all indirect effects for testing the mediation hypotheses, H3. The results showed (see table 4) that the facilitating conditions mediated the relationship between Actual usage of online social networks and user satisfaction. Thus, the H3 was accepted and showed the values of (□□□□□□□□□□□□□t□□□□□□□□□□□□p <0.001).

Table 4: Result of Indirect Effect Hypotheses

Hypothesis	Relationship	Std Beta	Std Error	t-value	p-value	Decision
H3	USE→FC→SAT	0.426	0.034	12.494	0.000	Supported

Key: USE: actual usage, FC: facilitating conditions, SAT: user satisfaction

V. DISCUSSION

The primary study objective is to identify the impact of actual usage pertaining to OSN on the user satisfaction

based on the mediation impact with regards to facilitating conditions amongst employees associated with the Tourism Development and Investment Company (TDIC) in Abu Dhabi.

It was seen that actual usage pertaining to online social networks had a positive impact on facilitating conditions amongst employees associated with the Tourism Development and Investment Company (TDIC) in Abu Dhabi. Previous studies showed that there is direct impact of the actual usage on the facilitating conditions (Raman & Don, 2013; Moghawemi, Salleh, Zhao, & Mattila, 2012; Im, Hong, & Kang, 2011). In this research study, the actual usage of OSN was found to cast a significant direct effect on facilitating condition. This could be justified by the fact that the use of online social networks has become more frequent, and is regarded as the primary choice of method adopted for communication, including promoting its use amongst colleagues; the more the organisation provides necessary software and hardware to employees, they attain better skills and knowledge to employ online social networks. In conclusion, actual use pertaining to online social networks is regarded crucial to comprehend facilitating conditions amongst employees associated with the Tourism Development and Investment Company (TDIC) in Abu Dhabi. Thus, H1 is achieved·

The testing of the second hypothesis was done to evaluate the impact of fascinating conditions pertaining to OSN on the satisfaction of the user, and the results demonstrate that the facilitating condition considerably enhanced the user satisfaction. The results were found to align with Hadji & Degoulet (2016) who also revealed identical results, and could be described by the fact that if employees are offered the required software and hardware by the company, they can gain the required skills and knowledge regarding the use of online social networks. This also helps users to become more satisfied and make them feel they have made a wise decision when it comes to using online social networks. Thus, H2 was achieved·

H3 considers that an indirect effect is cast by the actual usage pertaining to OSN on the satisfaction of the user via the mediating effect with regards to the facilitating condition. Results show a mediating effect exists for facilitating condition between user satisfaction and actual usage pertaining to OSN. Thus, H3 was achieved.

VI. IMPLICATIONS

The implications pertaining to the key findings offer considerable benefits for both individual employees as well as the public sector in the UAE and also for the country if they implement this IT infrastructure. In terms of organisations level, studies demonstrate that the use of online services has a positive impact on organisational performance (Wang & Hou, 2003; Chen, 2008). With regards to the state level, studies have demonstrated that the use of online applications could potentially enhance all aspects pertaining to our economic, social and cultural life (Kocaleva, 2014), which is also related to national income in a way (Pew Research Centre, 2013). Thus, the use of online platforms like social networks sites could greatly promote economic growth, and enhance employee performance as well as government efficiency in the UAE·

VII. CONCLUSION

This article is aimed at evaluating the effect of actual usage pertaining to OSN on the satisfaction of the user, apart from the mediation impact of facilitating conditions prevalent in the Tourism Development and Investment Company (TDIC) in Abu Dhabi, UAE. It has provided evidencefrom leading scholars in the field on the notion of 'actual usage' and howimproving the actual usage of OSN is essential to build the employees satisfaction and therefore better performance.This study puts forward an extended model pertaining to the Unified Theory of Acceptance & use of Technology (UTAUT), which showed two variables had key roles in determining the user

satisfaction pertaining to online social networks: facilitating condition 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.

VIII. APPENDIX

Appendix A

Instrument for varibles

Varible	*Measure*	*Source*
Facilitating Conditions (FC)	FC1: I have the hardware & software necessary to use the online social networks. FC2: I have the knowledge necessary to use the online social networks. FC3: I have the Skills necessary to use the online social networks.	(Moghawemi et al., 2012)(Gu, Lee, & Suh, 2009)(Lian, 2015)
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)
User Satisfaction (SAT)	SAT1: My decision to use the online social networks was a wise one. SAT2: The online social networks have met my expectations. SAT3: Overall, I am satisfied with the online social networks.	(Nistor et al., 2014) (Lin, 2007)

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