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The Influence of Knowledge Management on the Smart Government Effectiveness: An Empirical Study in UAE

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ABSTRACT: The need for a more efficient public sector has remained the prior motive for e-Government systems. At the local and federal government levels, pressure continues to mount on the need to implement e-Governance in order to achieve a more efficient and effective public service delivery. Smart government on the other hand also remains a recent construct which builds on but remains essentially different from e-government.Knowledge management is a critical component of public sector service delivery and smart Government effectiveness. The UAE public sector was selected as the primary spot for this analytical study having the prime focus on the employees in UAE Federal entities. Quantitative method of research was carried out by collecting information through a survey questionnaire. Findings indicate that knowledge management is a strong, positive and significant predictor of smart government. Knowledge management is again a significant and moderately strong predictor of smart government. Data was collected through survey questionnaire administered via online platform using five Likert scale and PLS SEM-VB was employed to assess the model of the present research by utilizing the software SmartPLS 3.0. The results are encouraging as all hypotheses were supported to have a significant positive influence on the efficacies of smart UAE governments. Moreover, results give insights to the government institutions how to manage knowledge to improve the smart government effectiveness.

Keywords: Knowledge management; smart government effectiveness; UAE.

I. INTRODUCTION

The need for a more efficient public sector has remained the prior motive for electronic Government popularly known as e-Government systems. At the local and federal government levels, pressure continues to mount on the need to implement e-Governance in order to achieve a more efficient and effective public service delivery [1]. The evolutionary nature of ICT helps explain the relationship between e-Government and Smart Government; simply put, when e-Government matures, it becomes Smart Government. Smart Government represents an advanced environment where people and other members of the society can avail opportunities, participate and communicate in any location with the identifiable connected device. The influence of quality knowledge management on Smart Government comes into context considering the dire need for interoperability, IT management, and knowledge processing in Smart Government [2-6].

The use of Smart Government has become an underlying element for the interaction between the G2C, G2B and between other inter-government entities (G2G). This interconnectedness cannot lead to societal intellectual capital accumulation without effective societal knowledge management. In support of this, knowledge management is critical to the competitive advantage of countries among several others argue that knowledge management is a critical component of public sector service delivery and e-Government. Most of the contemporary organizations use adopting technology with ICT in order to fill data in forms as well as assessed, gathered, examined, computed, planned, elucidated, and transmitted the obtained data, which is further put in use by the management to develop plans [7, 8]. It ensures effective resource use along with better planning and organization within an organization [7, 9, 10].

It is used in evaluating and controlling the information in organizations, and assuring proper usage and accountability of their data sources [7, 9, 10].

In addition, the area of quality of knowledge management has received little attention. Several investigations exist on how knowledge management can be used to drive quality at the products and other areas of economic activities. Little or only a few including Vidovichas observed the quality of knowledge management approach (as one of three main approaches) to measuring knowledge management using critical success factors. Various research works have emphasized on organizational standard of knowledge management instead of national level. Ultimately, the societal-national approach to knowledge management built from the critical thinking perspective as relevant to the public sector is critically discussed in the literature to represent the knowledge management dimension [11, 12].

In the context of the United Arab Emirates (UAE), no doubt it remains a role model to look up to on the mention of Smart Government [1]. The country on the issue of the UAE Federal e-Governance framework in 2011 had already implemented a number of public e-services for over a decade. It is clear that the UAE is trying to become a leading technology center based on the innovation strategy of the 4th Industrial Revolution [13, 14]. The country launched its first e-services product in 2001, which is the e-Dirham. Over the years, UAE has gone through various phases of e-Services, e-Transformation, E-Participation, and e-Government programs. Today, the country has been applauded for setting key benchmarks on the implementation of Smart Government.

The study aims at examining the impact of public knowledge management style in terms of Knowledge Sharing, Knowledge Organization, Knowledge

Accountability, and Utilitarian Role of Knowledge Management of UAE on UAE Smart Government effectiveness. For this, there is a need of multiple global indicators to present the current position of UAE in a global sphere. The exploratory attempt of the study is in the direction to help conceptualize and contextualize these areas in a critical thinking or creative holism approach as mentioned by Gao et al., (2008). The study conducts this contextualization study before arranging for the empirical evaluation of evidence where the influence of the quality of knowledge management (more specifically, the public-sector knowledge management style of UAE) on the Smart Government of UAE is investigated. The contextual intent the literature exploration is also to help lead to more contextual and relevant findings applicable to the UAE.

II. LITERATURE REVIEW

A. Smart Government Effectiveness (SGE)

The concept of Smart Government is relatively new compared with e-Government, stems from the concept of e-Government, and require that any attempt to conceptualize it also commences from the discussion of e-Government. e-Government can be defined as the application of electronic commerce tools and techniques by governments to provide services to the general public. Smart Government represents an advanced environment where people and other members of the society can avail opportunities, participate and communicate in any location with the identifiable connected device [15].

The smart government presents the opportunity for citizen engagement in a user-centered manner. A smart government that is user-centered basically provides services and resources that are molded specifically for the needs of users (citizens, government employees and residents among others).

In Addition, the key objectives of smart government include the enhancement of public sector services, networked government, efficiency, simpler procedures, high citizen participation, as well as offering the public higher value through their services. These objectives all aim to provide enhanced accessibility of smart government services to its stakeholders. The government of UAE has taken these key objectives into account in its current smart government initiatives. Systems accountability, therefore, remains a key component of the UAE Smart Government Framework and this needs to be examined for efficiency.

Moreover, Smart government is instrumental to the success of a knowledge economy and this remains a key part of UAE Vision 2021. As the UAE government aims to build a competitive knowledge economy, the smart government and its potential to push the UAE government closer to the achievement of its vision is in main focus. As mentioned by WAM (2015), a highly effective public sector knowledge management system will be key in achieving the goal of a highly competitive knowledge economy. This highlights the role of smart government in terms of knowledge management and the knowledge economy as a whole.

B. Knowledge Management (KM)

Ansari and others defines knowledge management as "the dynamic and cyclical set of practices that leads to the creation, extraction, capturing, refinery, storage, management and finally dissemination or transfer of knowledge towards the purpose of improving and enhancing effectiveness and efficiency of organizational procedures". Moreover, it is important to mention that ICT and knowledge management are one and the same may not entirely be considered as unacceptable considering technology remains one of the main inputs of knowledge management [16].

When the culture of an organization rewards the sharing of knowledge, employees are motivated to share knowledge. Rewards for knowledge sharing could be in the form of financial or moral support or simply an acknowledgement to the employees who go the extra mile to share the knowledge they have acquired with other members of the organization. Organizational commitment is related to knowledge sharing. This is because employees tend to be less motivated to share knowledge if Employees share less information when they do not get appreciated for their efforts. Employees may feel as though their knowledge is their valuable asset, and letting it go may cause them to lose their job. Therefore, reward systems are regarded as a key requirement for the success of knowledge management systems [18].

Additionally, Wiig asserts that the overall purpose of knowledge management is to secure viability as well as to attain overall success. Accountability is essential to success. In order to achieve these goals, knowledge must be utilized and various ways as useful to economic development. Ultimately, organizations must, therefore, build on knowledge, transform, organize and use its knowledge assets in a highly effective manner. Knowledge management aims to maximize effectiveness in terms of knowledge and all its related aspects in an organization. Hence, this requires an understanding of knowledge in order to systematically manage it as well as build and renew it. Ultimately, there must be knowledge accountability in order to effectively manage knowledge processes.

Furthermore, Knowledge is considered as the key force behind "economics of ideas", and this means that extra focus is placed on the creation of knowledge, its development, organization and leverage. A major purpose of knowledge management and the shift towards knowledge economies is to improve society. This shows that value for society remains at the core government knowledge management systems, and this is equally vital to the UAE government's quest for knowledge-based economic development. There is the need for collaboration among government agencies in order to maximize the strength of knowledge management in a collective effort to deliver public value. Knowledge management must be observed as a public utility vital to the general public. It is only upon this consideration that knowledge management can be integrated into the public, institutions and government [19-21].

Also, Gil-Garcia et al (2016) assert that high levels of information and knowledge sharing are necessary for the success of smart innovation. The absence of organizational boundaries or minimal organizational boundaries enables the realization of the true potential of information technology to government reform. This implies that government organizations need to operate collaboratively and take advantage of cross-organizational knowledge integration in order to realize the full capacity of information technology in facilitating government transformation. Such knowledge integration is key to government sustainability as it is accompanied by technological organizational and even political benefits. Gil-Garcia et al (2016) make mention of trusted social networks, shared information, integrated data

interoperable technical infrastructure as key components of knowledge sharing and integration. Upon this background, the proposed hypotheses are:

H1: *Knowledge sharing has a positive effect on smart government effectiveness*.

H2: *Knowledge organization has a positive effect on smart government effectiveness*.

H3: *Knowledge accountability has a positive effect on smart government effectiveness*.

H4: *Utilitarian role of knowledge management has a positive effect on smart government effectiveness.*

III. MODE OF RESEARCH CONDUCTED

A. Proposed Conceptual Framework

The final elements of the study are combined in the format as presented in Figure 2.1. Mainly, it is anticipated that effective knowledge management from the societal and national perspective will lead to an effective smart government in the public sector.

Among the main constructs presented in Figure 2.1, the factors of knowledge management and smart government were explored based on a careful synthesis of literature and with a keen interest in the context of UAE. Even though key literature support is provided in the literature review above, more structural support of literature is conducted to support the final models of the study.

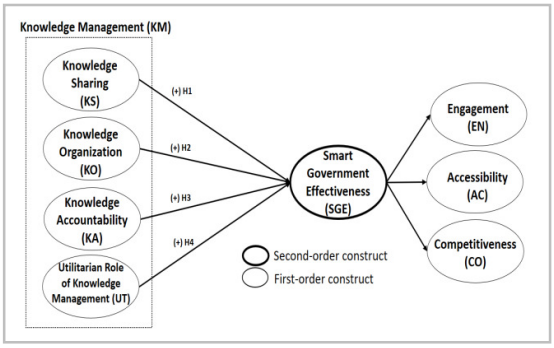


Fig. 1. The proposed conceptual framework.

B. Questionnaire preparation and information accumulation

Only primary data was used for analysis in the present study. The study analysis commenced with an event of data collection by using a survey-based questionnaire with the help of a survey questionnaire. The questionnaire was administered to the randomly selected respondents after the sampling frame was obtained from the Federal Authority for Government Human Resources. The information was accumulated within the assigned four weeks' timeline. Data collected at the end of the fifth week was analyzed and the results were results reported.

The stratified proportional sampling technique is adapted for the present investigation with strict adherence to the sampling frame of UAE Federal Government knowledge workers who are of UAE nationality since the local population is at the center of UAE Smart Government processes. According to the Federal Authority for Government Human Resources, a total of 44,901 Federal employees of UAE Nationality were projected for the year 2013. Using this figure, 83% were projected to be in Ministries and 17% were projected to be in Federal Authorities. The sample was selected in accordance with this sampling proportion of Ministries and Federal Authorities. The stratified proportional sampling technique was used to safeguard that the sample is representative of the study population. Data was collected using Google Forms. Only 443 responses were received out of 650 questionnaire. The data results that were assessed and analyzed 402 respondents from Ministries and Federal Authorities after removing missing data, outliers, and suspicious responses.

IV. DETAILED ANALYSIS OF THE DATA AND STUDY FINDINGS

PLS and SEM-VB was employed to assess the present study by utilizing SmartPLS3 [22]. A two-phase analytical technique consisting of (i) measurement model analysis (reliability and validity) and (ii) structural model analysis (examining the conceptualized relationships) was employed after performing the descriptive assessment. This two-phase analytical technique consisting of a structural and a measurement model assessment is better than a single phase assessment [23-26]. While the model of measurement explains each parameter's measurement, the structural model describes the correlation between the parameters in this model [24]. Structural equation modeling (SEM) has been opted as the statistical analysis process for this study because of its accuracy in terms of the simultaneous analytical calculations [27].

A. Elaborative evaluation

The mean and standard deviation of each variable of the collected sample is denoted in Table 1. The participants were summoned to share their opinions on transformational leadership and human capital on the basis of the Likert's Scale. Knowledge organization scored the highest with mean 3.55 out of 5.0, with a standard deviation of 1.20.

B. Measurement Model Assessment

Reliability as well as validity construction (comprising discriminant and convergent validity) were used to examine the measurement model. The particular alpha coefficients of Cronbach were tested to determine the reliability of every core parameter in the measurement model (construct reliability). The quantities of all the unique alpha coefficients of Cronbach in this research ranged from 0.879 to 0.937, which went beyond the proposed value of 0.7 [28]. All composite reality values ranged from 0.925 to 0.957, which went beyond 0.7 for construct relaibility evaluation [29-31]. Table 1 depicts high construct reliability.

Analysis of *indicator reliability* was conducted by utilizing factor loadings. When the related indicators are very similar, this is reflected in the construct and signified by the construct's high loadings [24]. As per Hair et al. (2010), the exceeding of values beyond 0.70 suggests substantial factor loadings. Table 1displays that all articles in this research had factor loadings greater than the suggested value of 0.7 with the exception of the item UT5 which was removed from the scale because of low loading [25].

AVE (average variance extracted) was employed in this study to analyse *convergent validity*, which represents the degree to which a measure is correlated positively with the same construct's other measures. All the AVE values ranged from 0.721 and 0.880, which went beyond the proposed value of 0.50 [25]. Thus, all

constructs have complied with the convergent validity acceptably, as shown in Table 1.

Table 1: ***Mean, standard deviation, loading, Cronbach's Alpha, CR and AVE.***

Constructs	Item	Loading (> 0.7)	M	SD	α (> 0.7)	CR (> 0.7)	AVE (> 0.5)
Knowledge Sharing (KS)	KS1 KS2 KS3 KS4 KS5	0.870 0.870 0.850 0.823 0.833	3.42	1.204	0.904	0.928	0.721
Knowledge Organization (KO)	KO1 KO2 KO3 KO4	0.920 0.927 0.924 0.899	3.55	1.200	0.937	0.955	0.842
Knowledge Accountability (KA)	KA1 KA2 KA3	0.901 0.884 0.920	3.44	1.13	0.885	0.929	0.813
Utilitarian Role of Knowledge Management (UT)	UT1 UT2 UT3 UT4 UT5	0.916 0.918 0.903 0.912 Deleted	3.40	1.169	0.933	0.952	0.832
Engagement (EN)	EN1 EN2 EN3	0.947 0.944 0.923	3.37	1.31	0.932	0.957	0.880
Accessibility (AC)	AC1 AC2 AC3	0.914 0.917 0.906	3.37	1.20	0.899	0.937	0.832
Competitiveness (CO)	CO1 CO2 CO3	0.871 0.913 0.907	3.43	1.15	0.879	0.925	0.805

Note: M=Mean; SD=Standard Deviation, α= Cronbach's alpha; CR = Composite Reliability, AVE = Average Variance Extracted

The degree to which the articles distinguish among concepts or measure different constructs is demonstrated by discriminant validity. Cross-loadings as well as Fornell-Larcker were employed to analyze the measurement model's discriminant validity. Generally, cross-loadings are employed as the initial step in examining discriminant validity of the markers [24]. In this research, the markers' outer loadings on a parameter went beyond all the cross-loadings with other parameters, and thus the cross-loading condition had met the requirements (Table 2).

Table 2: Discriminant validity by the cross loading findings.

	KS	KO	KA	UT	EN	AC	CO
KS1	**0.870**	0.538	0.459	0.539	0.614	0.640	0.619
KS2	**0.870**	0.541	0.490	0.549	0.623	0.634	0.607
KS3	**0.850**	0.521	0.468	0.505	0.712	0.634	0.564
KS4	**0.823**	0.524	0.642	0.552	0.502	0.542	0.572
KS5	**0.833**	0.516	0.601	0.535	0.532	0.542	0.553
KO1	0.580	**0.920**	0.633	0.657	0.542	0.567	0.603
KO2	0.573	**0.927**	0.638	0.646	0.559	0.606	0.611
KO3	0.559	**0.924**	0.645	0.651	0.547	0.608	0.614
KO4	0.569	**0.899**	0.660	0.701	0.577	0.620	0.667
KA1	0.570	0.654	**0.901**	0.668	0.548	0.603	0.617
KA2	0.553	0.610	**0.884**	0.622	0.492	0.595	0.594
KA3	0.553	0.636	**0.920**	0.647	0.556	0.609	0.598
UT1	0.599	0.658	0.627	**0.916**	0.591	0.641	0.655
UT2	0.570	0.678	0.686	**0.918**	0.561	0.601	0.626
UT3	0.566	0.649	0.660	**0.903**	0.564	0.593	0.639
UT4	0.563	0.660	0.643	**0.912**	0.576	0.613	0.623
EN1	0.694	0.592	0.573	0.601	**0.947**	0.675	0.684
EN2	0.652	0.556	0.567	0.579	**0.944**	0.674	0.674

EN3	0.645	0.559	0.521	0.588	**0.923**	0.647	0.649
AC1	0.652	0.587	0.619	0.622	0.656	**0.914**	0.734
AC2	0.644	0.594	0.583	0.595	0.640	**0.917**	0.750
AC3	0.642	0.612	0.628	0.620	0.645	**0.906**	0.737
CO1	0.677	0.641	0.621	0.633	0.697	0.778	**0.871**
CO2	0.587	0.604	0.572	0.614	0.611	0.706	**0.913**
CO3	0.580	0.584	0.604	0.627	0.607	0.696	**0.907**

Key: KS: knowledge sharing, KO: knowledge organization, KA: knowledge accountability, UT: Utilitarian role of knowledge management, EN: engagement, AC: accessibility, CO: competitiveness

Table 3 presents values for discriminant validity. It was discovered that the AVEs' square root, displayed in bold, is bigger than the values in the 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 [32, 33]. As per Hair et al. (2017), good discriminant validity is shown, with correlation < 0.85 for the exogenous constructs [24, 34].

Table 3: Discriminant validity findings.

	Factors	1	2	3	4	5	6	7
		AC	CO	EN	KA	KO	KS	UT
1	AC	**0.912**						
2	CO	0.812	**0.897**					
3	EN	0.709	0.713	**0.938**				
4	KA	0.668	0.669	0.590	**0.902**			
5	KO	0.655	0.681	0.607	0.703	**0.918**		
6	KS	0.708	0.687	0.708	0.620	0.622	**0.849**	
7	UT	0.671	0.697	0.628	0.716	0.724	0.630	**0.912**

C. Structural Model Assessment

Beta (β), R^2, and the corresponding *t*-values were calculated for this structural assessment study model through a bootstrapping procedure of 5,000 resamples [24].

Hypotheses Tests

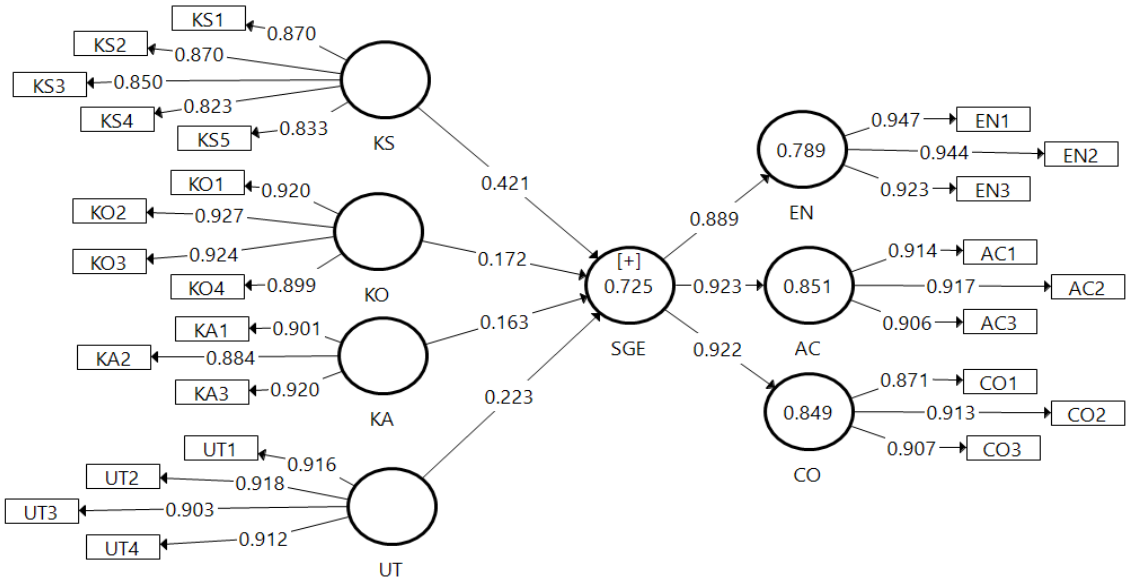
Figure 2 and Table 4 shows the results of the hypothesis tests, with 4 out of the 4 hypotheses are supported. Knowledge sharing, knowledge organization, knowledge accountability, and utilitarian role of knowledge management positively influence smart government effectiveness. Hence, H1, H2, H3 and H4 are accepted with ($\beta = 0.421$, t= 8.552, p <0.001), ($\beta = 0.172$, t= 4.067, p <0.001), ($\beta = 0.163$, t= 3.937, p <0.001) and ($\beta = 0.223$, t= 5.428, p <0.05) respectively.

The strong points of the association of exogenous and endogenous constructs are measured by the standardized path coefficients, which in this case show that the direct effects of knowledge sharing on smart government effectiveness is stronger than the influence of knowledge organization, knowledge accountability, and utilitarian role of knowledge management on smart government effectiveness.

The effectiveness of smart government is elaborated in terms of knowledge sharing, organization, accountability, and utilitarian role of knowledge management. The values of R^2 have an acceptable level of explanatory power, indicating a substantial model [35].

Table 4: Finding of the Structural analysis.

Hypothesis	Relationship	Std Beta	Std Error	t-value	p-value	Decision	R^2
H1	KS→SGE	0.421	0.049	8.552	0.000	Supported	0.73
H2	KO→ SGE	0.172	0.042	4.067	0.000	Supported	
H3	KA→SGE	0.163	0.041	3.937	0.000	Supported	
H4	UT→SGE	0.223	0.041	5.428	0.000	Supported	



Key: KS: knowledge sharing, KO: knowledge organization, KA: knowledge accountability, UT: Utilitarian role of knowledge management, SGE: smart government effectiveness, EN: engagement, AC: accessibility, CO: competitiveness

Fig. 2. PLS algorithm results.

Importance-Performance Map Analysis (IPMA)

IPMA was employed as a post-hoc PLS procedure in this study, with the smart government effectiveness used as the outcome construct. According to Hair et al. (2017), the IPMA (Table 5) provides an estimation of the total effects corresponding to the importance of predecessor constructs in affecting the target construct (smart government effectiveness); the average latent variable scores correspond to their performance, whereas the index values' (performance scores) calculation was achieved by rescaling the scores of the latent constructs to within a range from 0 (lowest performance) to 100 (highest performance). The PLS analysis is enhanced by IPMA as it focuses on latent constructs' average value along with the indicators (the performance dimension) in addition to performing the path coefficients analysis (the importance dimension) [36] (Table 5).

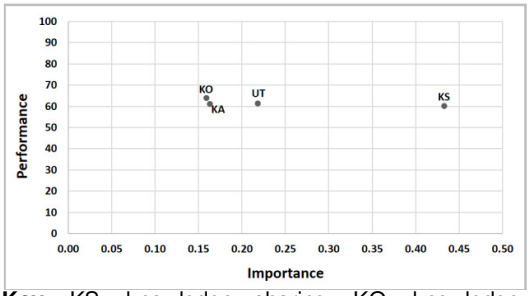
Table 5: IPMA for smart government effectiveness.

Latent constructs	Total effect of the construct Smart government effectiveness (Importance)	Index values (Performance)
Knowledge Sharing	0.43	60.04
Knowledge Organization	0.16	63.82
Knowledge Accountability	0.16	61.12
Utilitarian Role of Knowledge Management	0.22	61.37

It can be observed that knowledge sharing is a very important factor in determining the smart government effectiveness due to its relatively higher importance value compared to other constructs (Fig.3). On a whole, the managerial actions should emphasize on improving the knowledge transmission for better efficacy on the smart governments.

V. DISCUSSION

This study determines the impact of knowledge management in term of (Knowledge Sharing, Knowledge Organization, Knowledge Accountability, Utilitarian Role of Knowledge Management) on the UAE smart government effectivness and results are discussed.



Key: KS: knowledge sharing, KO: knowledge organization, KA: knowledge accountability, UT: Utilitarian role of knowledge management

Fig. 3. IPMA (Priority Map) for smart government effectiveness.

H1 was supported as the knowledge sharing had a significant positive effect on the UAE smart government effectiveness with ($\beta = 0.172$, t= 4.067, p <0.001). This is supported by prior studies as they state that the knowledge transmission and management is essential for impactful implications of a country's e-government. It is explained by the fact that knowledge sharing is required to facilitate the exchange of information and transaction processing with citizens, in addition, to enable inter-government knowledge sharing and integration. Consequently, the more institutions become able to promote transparency as part of social development efforts, enhance its resilience in the light of growing sense of uncertainty, build on e-commerce and e-business market to achieve the government's aim of a smart government, successfully add to the enhancement of the lives of citizens, and cooperate with other government institutions efficiently.

Moreover, H2 was supported with ($\beta = 0.172$, t= 4.067, p <0.001) as the utilitarian role of knowledge management was found to positively affect smart government effectiveness among employees of the Federal Authority for Government Human Resources in the UAE. The institutions support knowledge management systems for the general public, contribute to the overall monetary and fiscal management of UAE, place high importance on physical infrastructure like roads, hospitals and clinics, and maintain respect for other institutions in a collective effort. The more institutions make evidence-based decisions as entrusted by the government, becoming able to promote transparency as part of social development efforts, enhance its resilience in the light of growing sense of uncertainty, build on e-commerce and e-business market to achieve the government's aim of a smart government, successfully add to the enhancement of the lives of citizens, and cooperate with other government institutions in a very efficient manner.

Furthermore, Knowledge organization was found to positively affect smart government effectiveness among employees of the Federal Authority for Government Human Resources in the UAE, thus H3 is supported The institutions pay attention to knowledge (industry insight) and its classifications, and aiming to retrieve knowledge from all avenues and channel it to the government, focuses on organizational effectiveness in terms of making good use of knowledge, and recognize effort of those who help to create knowledge. The more organizations becoming able to promote transparency as part of social development efforts, enhance its resilience in the light of growing sense of uncertainty, build on e-commerce and e-business market to achieve the government's aim of a smart government, successfully add to the enhancement of the lives of citizens, and cooperate with other government institutions in a very efficient manner.

In Addition, H4 is supported as well as the knowledge accountability was found to positively affect smart government effectiveness among employees of the Federal Authority for Government Human Resources in the United Arab Emirates, this is supported by previous studies. It is explained by the fact that the more the institutions build on knowledge in the communities, make use of knowledge in government coffers to take decisions and operate, and pay close attention to knowledge. The more institutions become able to promote transparency as part of social development efforts, enhance its resilience in the light of growing sense of uncertainty, build on e-commerce and e-business market to achieve the government's aim of a smart government, successfully add to the enhancement of the lives of citizens, and cooperate with other government institutions efficiently [32, 35, 36].

At the end, all hypotheses were supported as the knowledge management would improve the efficiency of the UAE smart government.

VI. IMPLICATIONS, LIMITATIONS ANDFUTURE DIRECTIONS

Knowledge management has been found by the study to positively predict smart government. What this means for governments is that knowledge management can be capitalized on in order to improve the effectiveness of their smart government initiatives [37]. Moreover, it is noteworthy that the impact of knowledge management on smart government was significantly high. Overall, a significant portion of the variance is explained in smart government by knowledge management. Regardless, knowledge management is key in implementing smart government initiatives. In the UAE, evidence exists that the government is already in agreement with the need to install knowledge management systems. The UAE Government recognizes the importance of knowledge management and makes conscious efforts to create knowledge management systems and infrastructure.

One the other hand, this is study is no exception as it had limitations. One of the limitation of the study was in the area of data collection. Whereas some responses were extremely delayed, feedback was not received from other randomly sampled respondents. Some responses also indicated false data due to unconcealed patterns in the responses all the way through the questionnaire. There was the need to clean data and ensure that only correct data responses were included in the analysis. These considerations reduced the original sample size selected; nonetheless, the minimum sample size were still met for the main data collection phase of the study.

Moreover, concerning the methodology of the study, the present study used a mainly quantitative approach in a survey research strategy. It is recommended that future researchers consider adopting a qualitative research approach in addition to the quantitative approach adopted by the study. Adopting a qualitative approach to the present study will help by providing a direct opinion perspective to the present study. Using interviews in addition to the survey questionnaire will enable the study to capture the direct views of employees and provide data that will support the quantitative findings of the study in order to arrive at more solid conclusions.

VII. CONCLUSION

TThis research attempted to expand the knowledge in the area of knowledge management and smart government in the United Arab of Emirates by examining the effect of the valuable and intangibles resources to the effectiveness of smart government in the UAE. This study added valuable knowledge to the area of public sector as well as academic research. Concerning the influence of quality knowledge management on smart government effectiveness, it is concluded that quality knowledge management improves the implementation of smart government effectiveness and contributes to its successful implementation. Knowledge management is a positive predictor of smart government effectiveness and therefore higher quality knowledge management will contribute to the success of smart government. 72% of the variance in the effectiveness of smart UAE

government is depicted in the present study model. The current study has shed some light on the importance of knowledge management in improving the smart government effectiveness in the UAE.

APPENDIX

Appendix A

Instrument for varibles

Varible	*Measure*	*Source*
Knowledge Sharing (KS)	KS1: My institution builds on knowledge sharing and Integration among all internal and external stakeholders. KS2: The government's innovation interests are reflected in how my institution operates. KS3: My institution makes evidence-based decisions as entrusted by the government. KS4: My institution is citizen-centric; that is focused on citizens at all cost. KS5: My institution places sustainability at the core of its affairs and operations.	Biygautane & Al-Yahya (2010), Xiaoming & Pandya (2003), Wiig (2007), Gao *et al.,* (2008), Käpylä (2012)
Knowledge organization (KO)	KO1: My institution pays attention to knowledge (industry insight) and its classifications. KO2: In my institution, we aim to retrieve knowledge from all avenues and channel it to the government. KO3: My institution focuses on organizational effectiveness, making good use of knowledge. KO4: People who help create knowledge are rewarded and acknowledged by my institution.	
Knowledge Accountability (KA)	KA1: The government pays close attention to knowledge in my institution. KA2: My institution builds on knowledge in the communities where we operate. KA3: My institution makes use of knowledge in government coffers to take decisions and operate.	
Utilitarian Role of Knowledge Management (UT)	UT1: My institution follows and supports the institution of knowledge management systems for the general public. UT2: My institution contributes to the overall monetary and fiscal management of UAE. UT3: My institution places high importance on physical infrastructures like roads, hospitals, and clinics. UT4: My institution prioritizes information technology infrastructure both internally and externally. UT5: My institution maintains respect for other institutions in a collective effort.	
Engagement (EN)	EN1: My institution can engage all its people and stakeholders successfully. EN2: My institution is able to promote transparency as part of social development efforts. EN3: My institution is resilient in light of the growing sense of uncertainty.	Gil-Garcia *et al.* (2016), Rabaiah & Vandijck (2009), and the UAE Government (2010)
Accessibility (AC)	AC1: My institution is able to promote increased citizen participation in all of its services and operations. AC2: My institution builds on e-commerce and e-business market to achieve the government's aim of a smart government. AC3: My institution successfully adds to the enhancement of the lives of citizens.	
Competitiveness (CO)	CO1: My institution is able to build trust and confidence in all stakeholders. CO2: The electronic government system used by my institution is competitive globally. CO3: My institution co-operates with other government institutions in a very efficient manner.	

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