INTERNATIONAL JOURNAL OF SUSTAINABLE CONSTRUCTION ENGINEERING AND TECHNOLOGY
VOL. 14 NO. 3 (2023) 70-79



**IJSCET**

http://publisher.uthm.edu.my/ojs/index.php/ijscet

ISSN : 2180-3242 e-ISSN : 2600-7959

International Journal of Sustainable Construction Engineering and Technology

# Leveraging Trust as an Intermediary Construct for Enhancing Public Acceptance of Smart Government Model

**Hamdan Hasan Mohammed Thaiban[1,2], Safiah Sidek[1*]**

[1]Institute of Technology Management and Entrepreneurship,
Universiti Teknikal Malaysia Melaka, MALAYSIA

[2]Abu Dhabi Police, Abu Dhabi, UNITED ARAB EMIRATES

*Corresponding Author

DOI: https://doi.org/10.30880/ijscet.2023.14.03.007
Received 27 August 2023; Accepted 27 August 2023; Available online 21 September 2023

**Abstract:** The primary aim of this study was to formulate a trust model aimed at augmenting public acceptance of UAE's smart government services. The study identified a total of 31 factors categorized into seven distinct groups or constructs. The model comprises five independent constructs which are *Word of Mouth, Knowledge and Experience, IT Quality, Privacy, and Security*. Then, *Trust* as an intermediary construct while *Acceptance* as a dependent construct. Through a convenience sampling approach, data was collected from 400 respondents via a questionnaire survey. The data collected was utilized to create and refine the model using SmartPLS software. The model underwent thorough analysis, including assessments of convergent reliability and validity, discriminant validity, and hypothesis testing. The study results revealed the significance of all six hypotheses, indicating the noteworthy impact of the five independent constructs on the intermediary construct (*Trust*), which in turn significantly influences the dependent construct (*Acceptance*). In terms of its contribution to existing knowledge, this study significantly enriches the literature on citizen-centric models and smart government. Moreover, in practical terms, the findings provide valuable insights for policy makers and smart government officials to strategically optimize approaches, thereby facilitating the expedited and more effective adoption of smart government services.

**Keywords:** Trust model, intermediary construct, UAE smart government

## 1. Introduction

The significance of online information in management and its potential for value creation in public services cannot be underestimated. However, this poses a crucial challenge for public organizations to adapt their traditional structures and processes to the ever-evolving realm of online information while building and maintaining public trust. Building public trust has emerged as a central concern, particularly in the realm of smart government where the utilization of online information plays a crucial role. The integration of online information has brought forth innovation and immense value in cities, uniting citizens, businesses, transportation systems, communication networks, services, and utilities (Gil-Garcia, et al., 2014). The pervasive influence of online information has disrupted administrative landscapes across the globe, as various organizations and public departments have actively embraced new technologies such as the Internet of Things and cloud computing. By leveraging these technologies, they aim to establish interconnected and sustainable service delivery, provide high-quality information, enhance transactional efficiency, make better decisions, and foster global competitiveness (Gil-Garcia, et al., 2014); (Mohammed, et al., 2014); (Awoleye, et al., 2014); (Almuqarab, 2017); (Alenezi & Sharma, 2015).

*Corresponding author: safiahsidek@utem.edu.my

Online information plays a vital role in the realm of smart and intelligent government, representing one of the key trends that governments must embrace soon. Cities are increasingly recognizing the significance of "smart government" and actively formulating strategies to achieve this status while effectively addressing inclusion challenges (Bolívar, 2015). Smart government is considered the pinnacle of modernization for public organizations (Jiménez, et al., 2015). It incorporates elements of reflection, information gathering and processing, and relies heavily on information and communication technologies (ICT) while adhering to principles of openness, participation, and enhancement of public sector services (Kennedy, 2016).

ICT serves as the fundamental pillar driving the online information revolution in smart government. Its utilization leads to a complete transformation and restructuring of traditional processes and organizational structures, particularly through the digitization of information. ICT serves multiple purposes, encompassing data collection, data-driven decision-making, and the enhancement of service delivery, all while promoting greater accountability through increased transparency (Gil-Garcia, et al., 2013).

In the context of smart government, it becomes essential to share, reuse, and integrate information, ensuring both efficiency and public acceptance. Consequently, computer-supported facilities for sharing and reusing data emerge as core focal points in the seamless integration and interoperation of smart government initiatives (Alenezi & Sharma, 2015); (Jiménez, et al., 2015).

In recent times, the emergence of WEB 2.0 has led to the integration of various Social Media components, including social networking, blogs, wikis, tagging, and crowdsourcing, within the framework of smart government (Criado, et al., 2013); (Westerman, et al., 2014). Extensive literature recognizes social media as a powerful tool for engaging citizens, fostering social consciousness, facilitating the exchange of opinions, sparking debates, and sharing information about social and political issues.Moreover, social media offers significant benefits to smart governments through its capacity for two-way communication. It enables governments to solicit innovative ideas from the masses, gather collective feedback on government services, and enhance transparency in government interactions with the public. As a result, social media, as a crucial component of online information, plays a pivotal role in improving communication within smart governments.

An emerging trend in the realm of smart government initiatives is the widespread adoption of mobile applications, aiming to provide citizens with enhanced accessibility, accuracy, immediacy, and high-quality services (Almuqarab, 2017). Both public and private organizations have stepped up to offer a diverse range of services accessible through mobile devices. These services encompass various sectors, such as healthcare, transportation, governance, public safety, tax payment, and support for entrepreneurs. Remarkably, as early as 2010, the number of mobile devices in the UAE surpassed the combined count of computers and laptops in several countries worldwide (Ekong & Ekong, 2010). Moreover, compelling statistics from the Telecommunications Regulatory Authority (TRA) (Telecommunications Regulatory Authority, 2014) reveal that the number of registered mobile Internet users (19 million) in the UAE during the second quarter of 2016 exceeded the count of fixed Internet line subscribers (2.2 million) by more than fivefold. This demonstrates the significant shift towards mobile-centric services and underlines the importance of mobile applications in the ongoing evolution of smart government approaches.

The proliferation of registered mobile devices has sparked the development of several Smart Apps for smart government, including Abu Dhabi City Guard (Abu Dhabi e-Government, 2015), Smart Fujairah (Fujairah Municipality, 2015), Abu Dhabi Gateway (Dahi, et al., 2015), and mobile healthcare apps (Latif & Soomro, 2015). Abu Dhabi City Guard enables residents to report incidents and interact with various government departments, fostering citizen engagement and enhancing the security and safety of Abu Dhabi. On the other hand, Abu Dhabi Gateway facilitates real-time access to government-to-customer and government-to-business services, covering areas such as health, interior affairs, education, and traffic fine payments.

In the pursuit of effective and efficient public task performance and value creation, public departments should recognize online information as a catalyst for growth and innovation (Romanelli, 2017). AlAwadi and Scholl (2013) propose that online information in the public context aims to optimize resource utilization and enhance the effectiveness of public services. While significant progress has been made to overcome challenges in smart government, such as legislation, standard data policies (Mohammed, et al., 2014); (Bertot, et al., 2014); (Brito & Garcia, 2014), security protocols (Bari, et al., 2014), interoperability (Bertot, et al., 2014); (Mondorf & Wimmer, 2016), robust technology infrastructure (Bertot, et al., 2014); (Jin, et al., 2016), and open data, there remains a limited body of work systematically studying the establishment of public trust in online information. Building public trust emerges as a pressing issue to foster acceptance of government services through online information and better understand communities (Gil-Garcia, et al., 2014). Successfully implementing online information within the context of smart government and engendering public trust necessitates considering various aspects, notably developing new business and operational models, establishing robust information infrastructure, and implementing decision support systems.

## 2. Smart Government

To successfully establish a smart government, it is crucial to provide a robust online information infrastructure and environment that fosters public trust. However, as a disruptive technology, the main challenge lies in gaining public trust in information sharing within the smart government context. Mind scaping, a process of changing mindsets, becomes

essential to convince both the public and administrators to embrace the transition from e-government to smart government. Smart government, with its openness, transparency, collaboration, and community engagement, prioritizes building public trust as a primary objective to gain public acceptance. However, the issue of smart government security sometimes impacts public trust. In the realm of smart government, online information is sourced from cloud computing, wireless sensors, and networked unmanned systems, all interconnected to the Internet, aiming for efficient and effective management (Perera, et al., 2012). The challenge lies in ensuring the trustworthiness of this information. Perera et al. (2012) propose that strategically winning trust requires a long-term change management process, complemented by new privacy protection and security protocols to sustain the model and gain trust from all involved parties.

According to Mazzella et al., trust has become a pivotal element shaping interactions and relationships between users and service providers (Mazzella, et al., 2016). Their study on platforms like Airbnb highlights the critical role of products, services, and reputation systems in establishing and maintaining trust among users. Similarly, the implementation of smart government in Abu Dhabi is still in its early stages. A report in Khaleej-Times states that while 96% of respondents have access to online information, only 65% never use the Internet for government services (Khaleej Times, 2015). Despite the potential benefits of online information for governments, public administration, and citizens, there is limited research on this topic, particularly regarding the aspect of public trust. Many studies primarily focus on technological aspects while neglecting the importance of public trust. Particularly, the concept and design of a trust model for smart government remain largely ambiguous and lacking, despite the demand for such a model. Therefore, this research aims to address this gap by developing a trust model for smart government based on common findings from existing trust models in the literature, with the goal of enhancing public acceptance of using online information.

## 3. Behaviour Intention to Use

Relating to the specific nature and uniqueness of behavioural intention to use online information in smart government, trust and new variables have been included in the model which are as follow;

### 3.1 Trust

In literature, a massive information and components related to technology in government are considered as smartness in a government (Gil-Garcia, et al., 2016). It is argued that the information in smart government will be useful if information is shared between departments in organizations and organizations and citizen. However, trust the shared information and trust in government becomes one of the most urgent issues to prevent unauthorized disclosure and leakage information (Choi, et al., 2014), (Gil-Garcia, et al., 2016), (Almuraqab, 2016). Trust is proposed in this study as an antecedent variable to the acceptance to use online information in smart government. It has been defined as the belief the capability of product and/or service provider in smart government will perform some activity in accordance with customers' expectations (Almuraqab, 2016). Trust is an important determinant whether customers decide to accept and use the online information. Since trust toward online information is an important determinant for customers who decides their acceptance to use, this study inducts that trust toward online information positively affect customers' acceptance.

### 3.2 Word of Mouth

Generated from or reliant on oral publicity is the definition of word of mouth provided by Merriam Webster Dictionary online. Most studies have revealed the correlation between word of mouth and trust. In a sport event, trust has a significant role on participants' positive WOM (Lai *et al.*, 2022). Most studies in online shopping using social media (so called s-commerce) have revealed that trust plays an important role in inducing customer's word of mouth (Nishioka, et al., 2014), (Meilatinova, 2021; Rahman *et al.*, 2022). S-commerce users are likely to trust other users' experiences and opinions concerning certain products and services or s-commerce sites. A study analyses the status of e-commerce in China, and provides a research model for investigating the main antecedents influencing consumers' trust in the environment (Wang & wang, 2008). The results indicated that the word-of-mouth has the stronger effect on consumers' macro-level trust. According to (Meilatinova, 2021) the word of mouth is considered as significant behavioural in which the user intents to exchange positive information to others.

### 3.3 Knowledge and Experience

The knowledge and experience are key point of customers to determine whether they want to use or not to use it (Wang & wang, 2008). Knowledge is the information, understanding and skills that you gain through education or experience (Oxford, 2019). Experience is the knowledge and skill that you have gained through doing something for a period of time (Oxford, 2019). Internet users who have greater experience with using online information i.e social media, e-commerce, etc., or users who engage in creating user-generated content more extensively, than users with less of these experiences because they may be more familiar or comfortable with using aggregated online information, and thus be more trusting of it.

## 3.4 IT Quality

IT quality includes the concept of information quality, service quality and system quality specifically quality of website that will significantly affect customer's trust in the website (Hsu, et al., 2014); (Jafarpour & Andalib, 2016); (Ponte, et al., 2015). Ponte et al., (2015) details the characteristic of IT quality such as website should provide accurate information on the product and/or service, sufficient information, enough depth of information, helpful in purchasing process, clear information, and up-to-date information. In oxford Dictionary online, quality is defined as the standard of something when it is compared to other things like it.

## 3.5 Privacy

Conceptual definition on privacy is the ability of an individual to control personal information about one's self (Stone, et al., 1983). Privacy refer to a website's taking appropriate measures to protect customers' personal information from being misused (Kim, et al., 2008); . The measures include security characters, defences mechanisms and information protection. Privacy is the willingness of consumers to share information via the Internet that allows purchases to be decided (Meskaran, et al., 2013).

## 3.6 Security

This trust in the site plays a crucial role in influencing customers' behaviour, encouraging them to engage more actively and confidently in various online activities, such as making purchases, sharing personal information, and participating in online interactions. Ensuring a secure and privacy-conscious online environment, therefore, becomes a key factor in building long-lasting and loyal relationships with customers, ultimately contributing to the success and reputation of the website or platform. Studies have revealed that in the realm of online information, when customers feel a sense of security and have confidence in the protection of their privacy, their level of trust in the website is significantly enhanced (Hsu, et al., 2014); (Jafarpour & Andalib, 2016); (Pal, et al., 2018); (Ponte, et al., 2015). The online environment encompasses several crucial elements, such as risk, uncertainty, and interdependence (Yap, et al., 2010). As trust increases, users' attitudes toward specific behaviours are positively impacted, leading to a greater willingness to engage in those behaviours. Yap et al. (2010) have provided evidence that trust plays a pivotal role in shaping acceptance and usage intentions within the online environment.

## 4. Conceptual Framework Model

This study attempts to extend TAM and focuses on trust. TAM extension has generally taken one of the three approaches: by introducing factors from related models, by introducing additional or alternative belief factors, and by examining antecedents and moderators of perceived usefulness and perceived ease of use. Amin (2007) suggested the need for acceptance models which are tailored to specific technologies. They argued that generic models may not be adequate to explain the adoption and use of different types of technologies and service channels where specific features of the technology may play an important role. Therefore, it is important to include other explanatory variables into TAM.

Therefore, the conceptual framework of this study encompasses five constructs related to behavioural intention of use: IT Quality, Knowledge & Experience, Privacy, Security, and Word of Mouth. While, Trust serves as the central construct connecting behavioural intention of use with the acceptance of smart government services, as illustrated in Figure 1.

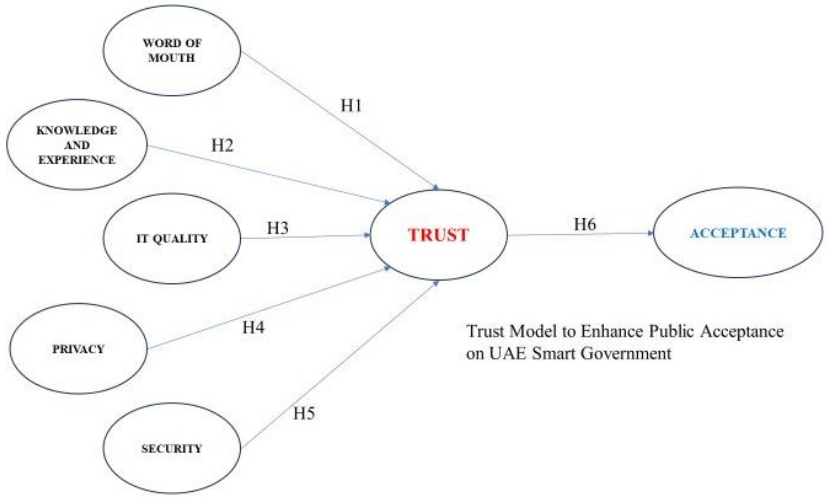


**Fig. 1 - Conceptual framework model**

The hypotheses inferred from the conceptual model are outlined as follows:
H1: A substantial correlation exists between word of mouth and trust.
H2: A considerable correlation exists between knowledge and experience and trust.
H3: A substantial correlation exists between IT quality and trust.
H4: A substantial correlation exists between privacy and trust.
H5: A substantial correlation exists between security and trust.
H6: A significant association exists between trust and acceptance.

## 5. Modelling

The collected served as the foundation for constructing the model using the PLS-SEM (Partial Least Squares Structural Equation Modeling) approach within the SmartPLS Software. The initial phase encompassed the creation of the model's visual representation, followed by the input of collected data into the software. Progressing from there, meticulous evaluation took place within the model's measurement component, striving for alignment with established fitness criteria. Only after achieving this level of alignment, the evaluation extended to the structural component of the model, again gauging its adherence to fitness criteria. This evaluation encompassed not only the model's overall structure but also hypothesis testing, which aimed to ascertain the statistical significance of the relationships within the model. This meticulous process ensured the robustness and validity of the constructed model. The characteristics of the conceptual model constructs are as in table 1

**Table 1 - Characteristic of the model constructs**

| Types of constructs | Name of construct | Numbers of items / indicators |
|---|---|---|
| Independent constructs | 1. Word Of Mouth | 4 |
| | 2. Knowledge And Experience | 4 |
| | 3. IT Quality | 5 |
| | 4. Privacy | 5 |
| | 5. Security | 5 |
| **Intermediary construct** | 6. Trust | 4 |
| Dependent construct | 7. Acceptance | 4 |
| | **Total** | 31 |

Table 1 show that there are 31 variables/items/indicators which are clustered in 7 constructs. The constructs are categorised into three which are independent; intermediary and dependent. There are 5 independent constructs also known as predictor variables or exogenous variables, are variables within a research study that are believed to influence or predict the values of other variables. These constructs are considered the "cause" or the inputs in the research model and are often manipulated or observed to examine their impact on other variables.

There is one intermediary construct which is **trust**. As an intermediary construct helps explain the process through which an independent variable influences a dependent variable. It serves as a mechanism that operates between the independent and dependent variables, providing insights into the underlying mechanisms or pathways of the relationship. While, dependent construct is **acceptance**. It is also known as outcome variables or endogenous variables, are the variables that researchers aim to explain or predict based on the influence of independent or predictor variables. These constructs are considered the "effect" or the outcomes of interest within the research model.

## 5.1 Convergent Reliability and Validity

The PLS-SEM analysis involves two distinct stages. In the initial stage, the focus is on evaluating the measurement model—whether reflective or formative—by employing indicators and constructs. This phase aims to validate the measurement's credibility and reliability before drawing conclusions about the structural model (Hair et al., 2014). Following data preparation, a path model was constructed using Smart PLS program V3.2.4 (Hair et al., 2016), which facilitated the analysis of relationships between constructs. This stage aids in assessing the alignment between a theoretically formulated model and the empirical analysis (Hair et al., 2014; Kline, 2011). The PLS algorithm is utilized to compute standardized reliability, composite reliability, outer loading, outer weights, and path coefficients in the causal structural model. The researcher examined the measurement model through factor analysis using confirmatory factor analysis (CFA) to assess factor loading, indicator and internal consistency reliability, and discriminant and convergent validity. Approval is generally granted for factor loading and AVE (convergent validity) within the range of 0.50 to 1.00, while indicator and internal consistency reliability are typically deemed acceptable between 0.70 and 1.00. To ensure discriminant validity, the outer loading on the variable under scrutiny should surpass the loadings on the cross-examined variables, a requirement that can be met using techniques such as Fornell-Larcker, cross loading, or HTMT (Hair et al., 2014).

Before proceeding with the examination of the structural model, it is essential to ensure the reliability and validity of the measurement model in structural modeling analysis. As per the PLS-SEM Test Rule of Thumbs, strong levels of internal consistency reliability are defined by composite reliability values exceeding 0.70. Additionally, all variables demonstrate convergent validity, with an average variance extracted (AVE) value greater than 0.50. Table 2 shows the results of convergent reliability and validity of the measurement model.

**Table 2 - Results of convergent reliability and validity**

| Constructs | Cronbach'sAlpha | CompositeReliability | AVE |
|---|---|---|---|
| Acceptance | 0.854 | 0.901 | 0.696 |
| IT Quality | 0.796 | 0.774 | 0.536 |
| Knowledge And Experience | 0.803 | 0.870 | 0.603 |
| Privacy | 0.782 | 0.869 | 0.689 |
| Security | 0.832 | 0.889 | 0.678 |
| Trust | 0.882 | 0.919 | 0.739 |
| Word Of Mouth | 0.916 | 0.941 | 0.800 |

Table 2 presents the test results for the reliability and validity of all seven constructs. The composite reliability values range from 0.774 to 0.919, indicating high levels of internal consistency reliability. Additionally, the AVE values, ranging from 0.536 to 0.739, surpass the threshold of 0.50, confirming the presence of convergent validity.

## 5.2 Discriminant Validity

Discriminant validity is the extent to which a construct measures different aspects from other constructs empirically (Hair et al., 2013). Traditionally, the Fornell-Larker criterion (1981) was a well-known test for discriminant validity, but it has lost favor in current research. Instead, Henseler, Ringle, and Sarstedt (2015) introduced the HTMT (Heterotrait-Monotrait) ratio of correlations, including HTMT.85 and HTMT inference, which has demonstrated superior performance through Monte Carlo simulation, showing high specificity and sensitivity (97% to 99%), no cross-loading (0.00%), and outperforming the Fornell-Larker criterion (20.82%). In the present study, discriminant validity was measured using HTMT.85, HTMT inference, and no items were deleted from the model, confirming that all constructs and items are discriminant from each other. Table 3 shows the discriminant validity results of the present study.

**Table 3 - Discriminant validity (Fornell Lacker Criterion)**

| Constructs | **Acceptance** | IT Quality | Knowledge And Experience | Privacy | Security | **Trust** | Word Of Mouth |
|---|---|---|---|---|---|---|---|
| **Acceptance** | 0.834 | | | | | | |
| IT Quality | 0.781 | 0.845 | | | | | |
| Knowledge And Experience | 0.662 | 0.658 | 0.794 | | | | |
| Privacy | 0.723 | 0.881 | 0.608 | 0.830 | | | |
| Security | 0.743 | 0.717 | 0.584 | 0.847 | 0.823 | | |
| **Trust** | 0.968 | 0.734 | 0.601 | 0.685 | 0.711 | 0.860 | |
| Word Of Mouth | 0.735 | 0.559 | 0.856 | 0.569 | 0.700 | 0.685 | 0.894 |

Table 3 displays the results of the discriminant validity assessment using HTMT.85 and HTMT.90. The values presented in the table indicate that the construct has achieved discriminant validity. With a threshold of 0.85 and 0.90, any figures below 0.90 signify established discriminant validity. The second method used to confirm discriminant validity was through the HTMT inference test proposed by Henseler et al. (2015) using the bootstrapping technique, and the outcomes are also provided in Table 4.14. The table demonstrates that all constructs exhibit discriminant validity, as the confidence intervals show no overlap with zero, satisfying the condition of -1 < HTMT < +1. Therefore, it can be concluded that all constructs meet the acceptable threshold for discriminant validity

## 5.3 Hypothesis Testing

The validation of the stated hypotheses and structural model involves assessing the path coefficient between two latent variables. As per common practice, the path coefficient should be a minimum of 0.1 to account for a specific effect within the model (Wetzels et al., 2009; Hair et al., 2011). In this study, the verification of hypotheses was conducted by examining the statistical significance of the path coefficients through t-values and confidence intervals. These values were computed using a bootstrapping resampling technique involving 5000 samples (Hair et al., 2014). Bootstrapping, as described by Chinn (1998), is a non-parametric approach employed to gauge the precision of the PLS estimate. The outcomes are presented in Table 4.

**Table 4 - Construct model direct relationships**

| Hypothesis | Relationships | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values | Significant |
|---|---|---|---|---|---|---|---|
| H1 | WORD OF MOUTH -> TRUST | 0.538 | 0.531 | 0.149 | 3.619 | **0.000** | Significant |
| H2 | KNOWLEDGE AND EXPERIENCE -> TRUST | -0.283 | -0.276 | 0.122 | 2.316 | **0.021** | Significant |
| H3 | IT QUALITY -> TRUST | 0.622 | 0.606 | 0.134 | 4.656 | **0.000** | Significant |
| H4 | PRIVACY-> TRUST | -0.149 | -0.233 | 0.102 | 2.546 | **0.049** | Significant |
| H5 | SECURITY-> TRUST | 0.579 | 0.273 | 0.074 | 2.032 | **0.038** | Significant |
| H6 | TRUST -> ACCEPTANCE | 0.968 | 0.969 | 0.008 | 125.584 | **0.000** | Significant |

Table 4 shows summary result for hypothesis testing of the model and as elaborated as follow;

**i.** For hypothesis *word of mouth* with trust the result indicates that *word of mouth* has significant relationship that influence trust information in smart government with P-value=0.000, T statistics=3.619 at significance level of 0.95% and two-tailed test.
**H1: There is a significant relationship between word of mouth with trust.**

**ii.** For hypothesis *knowledge and experience* with trust, the result indicates that knowledge and experience have significant relationship that influence trust information in smart government with P-value=0.021, T statistics=2.316 at significance level of 0.95% and two-tailed test.
**H2: There is a significant relationship between knowledge and experience with trust.**

**iii.** For hypothesis IT quality with trust, the result indicates that IT quality has significant relationship that influence trust information in smart government with P-value=0.000, T statistics=4.656 at significance level of 0.95% and two-tailed test.
**H3: There is a significant relationship between IT quality with trust.**

**iv.** For hypothesis **Privacy** with trust, the result indicates that **Privacy** has significant relationship that influence trust information in smart government with P-value=0.049, T statistics=2.546 at significance level of 0.95% and two-tailed test.
**H4: There is a significant relationship between Privacy with trust.**

**v.** For hypothesis **Security** with trust, the result indicates that **Security** has significant relationship that influence trust information in smart government with P-value=0.049, T statistics=2.546 at significance level of 0.95% and two-tailed test.
**H5: There is a significant relationship between Security with trust.**

**vi.** For hypothesis **Trust and Acceptance,** the result indicates that **Trust** has significant relationship that influence acceptance in smart government with P-value=0.000, T statistics=125.5 at significance level of 0.95% and two-tailed test.
**H6: There is a significant relationship between Trust and Acceptance.**

## 5.4 Final Trust Model

Upon completion of the assessment procedures, the resultant model is illustrated in Figure 2. The rigorous evaluation process led to the exclusion of 5 factors, leaving the model with a total of 26 factors

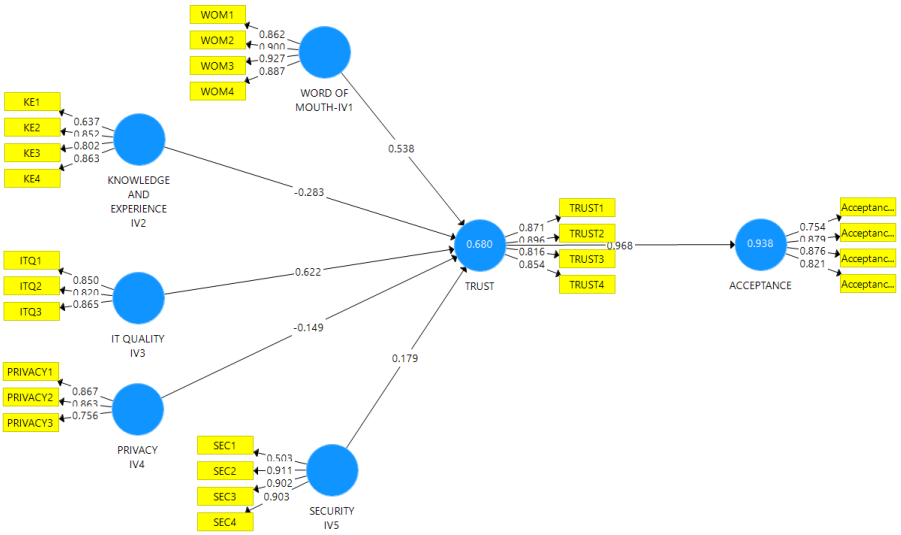


**Fig 2 - Final trust model**

## 6. Conclusion

The objective of this study was to construct a trust model aimed at enhancing public acceptance of UAE's smart government services. Data was collected from 400 public respondents through a convenience sampling approach using a questionnaire survey. The gathered data was then utilized to develop the model employing SmartPLS software. The model underwent analysis for convergent reliability and validity, discriminant validity, and hypothesis testing. The results indicated the significance of all six hypotheses, highlighting the significance of the five independent constructs towards the intermediary construct (trust), and the significant role of this intermediary construct in influencing the dependent construct (acceptance). The study's contribution to the body of knowledge lies in its relevance to citizen-centric models and smart government, offering insights that can guide policy makers and government officials in optimizing strategies for the swift and efficient adoption of smart government services. This research model could potentially serve as a foundational resource for future studies in the realm of citizen-centric models. Furthermore, based on the limitations encountered in this study, various recommendations for future research were proposed. Among these suggestions is the employment of a longitudinal design to enhance generalizability, as well as replication of the study in different contexts for broader insights.

## Acknowledgement

The authors extend their gratitude to the university for granting permission to conduct the study and for facilitating the publication of this article.

## References

Abu Dhabi e-Government, 2015. CityGuard Abu Dhabi. [Online] Available at: (2015). [Accessed 5 February 2019].

AlAwadhi S, Scholl HJ (2013) Aspirations and realizations: The smart city of Seattle. Paper pre-sented at the 46th Hawaii International Conference on System Sciences (HICSS-46), 7–11 January, Wailea, Maui, HI/USA.

Alenezi, H. & Sharma, S. K., 2015. Development of quantitative model to investigate the strategic relationship between information quality and e-government benefits. Transforming Government: People, Process and Policy, pp. Vol. 9 Issue: 3, pp.324-351.

Almuqarab, N. S., 2017. Smart Government Services Adoption In The Uae: A Conceptual Model. Abu Dhabi, UAE, s.n.

Almuraqab, N. S., 2016. M-Government Adoption Factors in the United Arab Emirates: A Partial Least-Squares Approach. International Journal of Business and Information, 11(4), pp. 404-431.

Amin, H. (2007). Internet banking adoption among young intellectuals. Journal of Internet banking and commerce, 12(3), 1.

Awoleye, O. M., Ojuloge, B. & Ilori, M. O., 2014. Web application vulnerability assessment and policy direction towards a secure smart government. Government Information Quarterly, 31(1), pp. S118-S125.

Bari, A., Jiang, J., Saad, W. & Jaekel, A., 2014. Challenges in the Smart Grid Applications: An Overview. International Journal of Distributed Sensor Networks , pp. 1-11.

Bertot, J. C. et al., 2014. Big data, open government and e-government: Issues, policies and recommendations. Information Polity, 19(1), pp. 5-16.

Brito, K. d. S. & Garcia, V. C., 2014. Brazilian Government Open Data: Implementation, Challenges, and Potential Opportunities. 11-16, Aguascalientes, Mexico, s.n.

Chinn, C. A., & Brewer, W. F. (1998). An empirical test of a taxonomy of responses to anomalous data in science. Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching, 35(6), 623-654.

Choi, J. U., Chun, S. A. & Cho, J. W., 2014. Smart SecureGov: Mobile Government Security Framework. Aguascalientes, Mexico, s.n.

Criado, I. J., Sandoval-Almazan, R. & Gil-Garcia, R. J., 2013. Government innovation through social media. Government Information Quarterly, pp. 30, pp. 319-326.

Dahi, M., Ezziane, Z. & Vienna, T., 2015. Measuring e-government adoption in Abu Dhabi with technology acceptance model (TAM). Int. J. Electronic Governance, 7(3), pp. 206-231.

Ekong, U. & Ekong, V., 2010. M-voting: A panacea for enhanced e-participation.. Asian Journal of Information Technology, 9(2), 9(2), p. 111–116.

Fujairah Municipality, 2015. SmartFUJAIRAH Mobile Application. [Online] Available at: https://itunes.apple.com/us/app/smartfujairah/id789236939?mt=8 [Accessed 5 February 2019].

Gil-Garcia, J. & Sayogo, D., 2016. Government inter-organizational information sharing initiatives: Understanding the main determinants of success. Government Information Quarterly, pp. Volume 33, Issue 3, 572-582.

Gil-Garcia, J. R., Helbig, N. & Ojo, A., 2014. Being smart: Emerging technologies and innovation in the public sector. Government Information Quarterly, 31(1), pp. 11-18.

Gil-Garcia, J. R., PArdo, T. A. & Aldama-Nalda, A., 2013. Smart Cities and Smart Governments: Using Information Technologies to address Urban Challenges. Quebec City, QC, Canada, s.n.

Gil-Garcia, J. R., Zhang, J. & Puron-Cid, G., 2016. Conceptualizing smartness in government: An integrative and multi-dimensional view. Government Information Quarterly, 33(3), pp. 524-534.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2014). A primer on partial least squares structural equation modeling (PLS-SEM). Sage Publications

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. Long range planning, 46(1-2), 1-12.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. Journal of the academy of marketing science, 40, 414-433.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modelling. Journal of the Academy of Marketing Science, 43(1), 115-135.

Hsu, M.-H., Chuang, L.-W. & Hsu Cheng, S., 2014. Understanding online shopping intention: the roles of four types of trust and their antecedents, Internet Research, pp. Vol. 24 Issue 3, pp.332-352.

Jafarpour, H. & Andalib, A., 2016. A New Method for Determination of Effective Criteria to Evaluate Electronic Trust (E-Trust) of Online Customers. s.l., s.n., pp. 1-6.

Jiménez, C. E. et al., 2015. Smart government: Opportunities and challenges in smart cities development. In: Handbook of research on democratic strategies and citizen-centered e-government services. PA, USA: IGI Global: Hershey, p. 1–19.

Jin, J., Gubbi, J., Marusic, S. & Palaniswami, M., 2016. An Information Framework An Information Framework of An Information Framework of An Information Framework of Creating a Smart City through Internet of Things. pp. 1-10.

Kennedy, R., 2016. E-regulation and the rule of law: Smart government, institutional. Information Polity, 21(1), p. 77–98.

Khaleej Times, 2015. Khaleej Times. [Online] Available at: http://www.khaleejtimes.com/nation/government/96.3-marks-for-m-government-initiative-in-41-entities [Accessed 5 February 2019].

Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. Decision support systems, 44(2), 544-564.

Kline, R. B. (2015). Principles and practice of structural equation modeling. Guilford publications.

Lai, J., Zou, Y., Zhang, J., & Peres- Neto, P. R. (2022). Generalizing hierarchical and variation partitioning in multiple regression and canonical analyses using the rdacca. hp R package. Methods in Ecology and Evolution, 13(4), 782-788.

Latif, A. & Soomro, T. R., 2015. Emergency Reporting and Intervention: A Smart Approach. SINDH UNIVERSITY RESEARCH JOURNAL (SCIENCE SERIES), 47(3), pp. 385-388.

Mazzella, F., Sundarajan, A., Butt d'Espous, V. & Möhlmann, M., 2016. How digital trust powers the sharing economy: the digitization of trust. IESE Insight, pp. 24-31.

Meilatinova, N. (2021). Social commerce: Factors affecting customer repurchase and word-of-mouth intentions. International Journal of Information Management, 57, 102300.

Meskaran, F., Ismail, Z. & Shanmugam, B., 2013. Online Purchase Intention: Effects of Trust and Security Perception. Australian Journal of Basic and Applied Sciences, 7(6), pp. 307-315.

Mohammed, F. et al., 2014. UAVs for Smart Cities: Opportunities and Challenges. Orlando, FL, USA, s.n.

Mondorf, A. & Wimmer, M. A., 2016. Requirements for an Architecture Framework for Pan-European E-Government Services. 136-150, Guimarães, Portugal, s.n.

Nishioka, D., Saito, Y. & Murayama, Y., 2014. The influence of knowledge level in information security onto the factors of Anshin for online shopping users. Hawaii, s.n.

Oxford, 2019. https://www.oxfordlearnersdictionaries.com/, Oxford: Oxford University Press.

Pal, D., Funilkul, S., Charoenkitkarn, N. & Khantamanin, P., 2018. Internet-of-Things and Smart Homes for Elderly Healthcare: An End User Perspective. SPECIAL SECTION ON HUMAN-CENTERED SMART SYSTEMS AND TECHNOLOGIES, IEEE Translations, Volume 6, pp. 10483-10496.

Perera, C., Zaslavsky, A., Christen, P. & Georgakopoulos, D., 2012. Sensing as a Service Model for Smart Cities Supported by Internet of Things. TRANSACTIONS ON EMERGING TELECOMMUNICATIONS TECHNOLOGIES, pp. 1-12.

Ponte, E., Carvajal-Trujillo, E. & Escobar-Rodríguez, T., 2015. Influence of trust and perceived value on the intention to purchase travel online: Integrating the effects of assurance on trust antecedents. Tourism Management, pp. 47, pp. 286-302.

Rahman, A., Farrok, O., & Haque, M. M. (2022). Environmental impact of renewable energy source based electrical power plants: Solar, wind, hydroelectric, biomass, geothermal, tidal, ocean, and osmotic. Renewable and Sustainable Energy Reviews, 161, 112279.

Romanelli, M., 2017. Rethinking Public Organizations as Knowledge-Oriented and Technology-Driven Organizations. Management Dynamics in the Knowledge Economy, 5(1), pp. 559-576.

Stone, E. F., Gueutal, G., Gardner, D. G. & McClure, S., 1983. A field experiment comparing information-privacy values, beliefs, and attitudes across several types of organizations. Journal of applied psychology, 68(3).

Telecommunications Regulatory Authority, 2014. Open Data. [Online] Available at: https://www.tra.gov.ae/en/open-data.aspx [Accessed 2019].

Wang, S. & wang, X., 2008. Factors Impacting Chinese Consumers' Macro-Level Trust on B2C E-Ecommerce: An Empirical Study. Taipei, Taiwan, s.n.

Westerman, D., Spence, P. R. & Van Der Heide, B., 2014. Social Media as Information Source: Recency of Updates and Credibility of Information. Journal of Computer-Mediated Communication, 19(1), pp. 171-183.

Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. MIS quarterly, 177-195.

Yap, K. B., Wong, D. H., Loh, L. & Bak, R., 2010. Offline and online banking – where to draw the line when building trust in e-banking?. International Journal of Bank Marketing, pp. Vol. 28 No. 1, pp. 27-46.