Factors Affecting Citizens' use of Social Media to Communicate with the Government: a Proposed Model

Reemiah Muneer ALotaibi, Muthu Ramachandran, Ah-Lian Kor and Amin Hosseinian-Far
School of Computing, Creative Technologies, Faculty of Arts, Environment and Technology
Leeds Beckett University, UK
r.alotaibi6536@student.leedsbeckett.ac.uk
M.Ramachandran@leedsbeckett.ac.uk
A.Kor@leedsbeckett.ac.uk
A.Hosseinian-Far@leedsbeckett.ac.uk

Abstract: With the emergence of Web 2.0 technology, governments are able to deliver quality services and fully satisfy the needs of their citizens. Despite the importance of this emerging trend, identifying and attracting an audience for government-affiliated social media (SM) services has proved to be a significant challenge. The figures for public participation in government2.0 remain below expectations. This paper is one of the few attempts to identify those factors affecting citizens' decisions to use SM platforms as a means for communication with their government. To develop a new model of SM adoption, this research study is based on a literature review, and will extend the Unified Theory of Acceptance and Use of Technology (UTAUT) model by integrating cultural factors identified by the Hofstede model (masculinity, uncertainty avoidance, power distance and collectivism) and factors related to the trust and motivational model. This paper has created a comprehensive taxonomy of those factors that influence the adoption of SM among citizens, while providing a list of hypotheses for evaluating the significance of these factors.

Keywords: Government 2.0; Citizen; UTAUT; Web 2.0; Social media

1. Introduction

The definition of government2.0 can be given as: "*The use of web 2.0 tools within government organisations and their interactions with citizens*" (Mergel, 2012:34). According to Magro (2012) and Steenkamp and Hyde-Clarke (2014), SM is something that includes social networking platforms like Google+ and Facebook, microblogging platforms such as Twitter, other blogging platforms, wikis and media-sharing websites like Flickr and YouTube. All are considered as platforms that enable data sharing in a participatory manner. SM possesses four primary advantages (Bertot et al., 2010): participation; empowerment; time; and collaboration. SM's nature ensures that it is a collaborative and participatory phenomenon, shaped by social interaction. This brings about the potential for users to relate to one another and create social circles for distributing information or attaining a shared goal. Within the context of e-participation, SM presents superior governmental and political decision-making paths and policies, introducing the general public into the decision-making process while making sure that those decisions undertaken by governments are legitimised owing to voter input, thus increasing governmental transparency and responsiveness.

SM empowers users, providing a platform and ubiquitous access to the Web, and thus the means to publish their thoughts or information without great cost and making media democratic (Unsworth & Townes, 2012). According to Linders (2012), government2.0 involves voters and governments as equal partners. Regarding time, SM technology means users can broadcast data in near-real-time and send information to specific individuals (Bertot et al., 2010). Furthermore, according to Aladalah, Cheung and Lee (2015), a number of Web2.0 processes are free, enabling people to be contacted in an informal, direct way.

Globally, governments may try to develop innovative platforms and strategies through which to enhance communication with their citizens, although without their widespread adoption such platforms will not be effective. According to Statista (2014), there are more than 1.6 billion users of leading networks worldwide, and 64% of Internet users' access SM services. According to Statista, SM platforms are a popular means by which Internet users stay connected with their friends and family, read news and engage with other content. A report produced by Capgemini entitled *Assessing User Centric eGovernment performance in Europe - eGovernment Benchmark 2012* highlights that (based on 28,000 citizens from 32 countries) only 46% of Europe's Internet population use online public services (Capgemini, 2012), demonstrating that 54% of users with full Internet access were not comfortable using and were not motivated to use SM/e-government

services to communicate with their government. With over 1.6 billion users connected to SM, why are so many citizens failing to use e-government services? Citizens' motivation and willingness to connect to government2.0 are necessary, but why do citizens collaborate, participate and communicate regarding public matters? When contrasted with general SM, usage identifies that the successful implementation of e-government services depends on governmental backing and citizen satisfaction and willingness to adopt such services (Alomari , 2014). End-user (consumers/citizens) satisfaction with adoption, usage and success of (SM) platforms plays an important role, and is crucial in identifying those critical factors that influence citizens (Mergel, Schweik & Fountain, 2009; Coskunçay, 2013).

The factors affecting the acceptance of communicating interaction using SM in a governmental context have not been comprehensively studied. This research study intends to highlight those factors that influence user choice with regard to accepting SM as a communicative channel with the government.

A number of theories exist concerning general SM technology adoption. Although general, they are nevertheless relevant with regard to overall technological adoption. Traditional adoption models within the field of information and technology (IT) can be altered and elongated if applied to the adoption of original or innovative technology (Pederson & Ling, 2003). A new e-adoption model needs to be devised, capable of concentrating on especially important elements for SM as well as creating a comprehensive taxonomy of the factors influencing SM adoption among citizens. The model proposed in this research is an extension of the original UTAUT, and uses information gathered from a literature review. Various aspects have been selected from models that the authors believe assists researcher understanding of how SM may be made prevalent among a citizenry. Consequently, these factors have been defined and categorised as: UTAUT factors; perceived motivation factors; trust and cultural factors.

This paper will be structured as follows: Section 2, from an individual perspective, critically reviews the published literature concerning SM adoption and adoption theories; Section 3 describes the model constructs with a detailed rationale for each hypothesis; Section 4 provides the proposed research model and research hypotheses; Section 5 proposes a methodology; and Section 6 provides a conclusion and a summary of the study's various contributions and limitations.

2. Theoretical background

2.1 Related works

Kwon and Wen (2010) have assessed the impact of individual differences on user intention regarding the use of social network services (SNS) (human-relationship-oriented systems), analysing factors such as social identity, altruism, telepresence and perceived encouragement, and demonstrating the influence of these factors on SM. A similar study was conducted by Ramirez-Correa (2013) into the utilisation of SNS. The original version of the technology acceptance model (TAM) was improved by adding three perceived values: social identity, telepresence and altruism. A structured equation model was then used to test the modified model, with the findings demonstrating Generation Y's acceptance of social networking services in Chile.

Pai and Arnott (2013) tried to devise a comprehensive understanding of the underpinning factors affecting the utilisation of social networking sites (SNSs). The study explored the users' insights on five characteristics, 10 outcomes and four values interlinked with SNS acceptance - focusing exclusively on Facebook. The findings revealed that users looked for four major values when using SNSs: belonging, self-satisfaction, confidence and reciprocal interactions. The reasons behind the adoption of social networking services were explored by Lee and Suh (2013) and a constructed model developed based on three well-known hypotheses: TAM, network externality and innovation diffusion theory (IDT). Data were gathered through a survey targeting social networking sites like Facebook and Twitter. Results revealed that perceived usefulness (PU), perceived ease of use (PEU), members (M) and compatibility (C) had a significantly positive effect on actual usage (AU) of social networking services. Herein, members are defined as "the degree to which a person uses a particular technology or system because of other users (e.g., friends, family, etc.)" (Lee & Suh, 2013, p. 4), and this is represented as social influence within the UTAUT model; while compatibility is defined as "*the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters*" (Lee & Suh, 2013, p. 5). Alarcón-Del-Amo, Lorenzo-Romero and Del Chiappa (2014) explored the acceptance of SNS use by Italians. A model based on technology adoption was used with additions relating to trust and perceived risk. Consequently, most studies conducted in this area have major limitations and few generalised results. The limitations may include analysing the gathered data in relation to a particular city, grouping or association based on general adoption, or targeting a specific field such as education or commerce.

With regard to assimilating information of SM use as a means to communicate with governments, targeting users from larger age groups across various SM networks is vital for generalisation purposes. To the researcher's knowledge, no extant research aims to explore the factors affecting users' acceptance of SM as a tool for communicating with the government, although some studies focusing on a single factor, like trust, were found (Shah, 2010; Song & Lee, 2013). However, the model was only proposed by Alharbi (2014) from a citizen's perspective; this study intends to assess those elements impacting individuals' motivation to utilise e-participation services in Saudi Arabia regarding government websites. The framework suggested herein is comprised of a single dependant variable (the intent of the individual to participate in e-participation) and three further control variables: attitude, design and trust. Furthermore, the moderating effects on the connection among each predicator and the individual's intent to utilise e-participation regarding power distance, cultural dimensions and uncertainty avoidance are also set into the model.

2.2 Adoption theory

Over the past few decades, various technological theories and models have been used to scrutinise those critical factors influencing the adoption of emerging technologies, and these divide into two broad categories or levels: the individual level and the organisational level (Alotaibi et al., 2015).

Related theories on technology adoption at an individual level:

- • Theory of reasoned action (Fishbein & Ajzen, 1975)
- • Theory of planned behaviour (Ajzen, 1985)
- • Technology acceptance model (Davis, Bagozzi & Warshaw, 1989)
- • Unified theory of acceptance and use of technology (Venkatesh et al., 2003).

2.2.1 Unified theory of acceptance and use of technology

In the context of information system (IS)/IT adoption, TAM was one of the most widely-accepted theories prior to the UTAUT model's existence. Venkatesh et al. (2003) identified the fact that many constructs from extant theories and models are similar, and thus it is important to integrate different constructs under a single theory: UTAUT. The UTAUT model was developed from a review and consolidation of the constructs of eight theories that previous research had utilised to investigate Information and Communication Technologies' (ICTs) usage behaviour (theory of reasoned action, technology acceptance model, motivational model, theory of planned behaviour, a combined theory of planned behaviour/technology acceptance model, model of PC utilisation, innovation diffusion theory and social cognitive theory). Additionally, as TAM2 was developed to enhance the explanatory power of the original TAM model, UTAUT was developed in a similar manner to overcome the limitations of the TAM2 extended model. The UTAUT model defines the direct determinants of intent to use and behavioural intent to use. The direct determinants of behavioural intention are performance expectancy, effort expectancy and social influence; while the direct determinants of intention to use are facilitating conditions as defined below (Venkatesh et al., 2003; Al-Shafi & Weerakkody, 2010):

- **Performance expectancy:** The extent to which an individual believes that using a system/technology/tool will improve their job performance.
- **Effort expectancy:** The degree of effortlessness associated with the use of the system based on perceived ease of use, complexity and actual ease of use.
- **Social influence:** The degree to which peers/surroundings positively or negatively influence the use of the system.
- **Facilitating conditions:** The degree to which an individual trusts that an organisational or technical infrastructure is available for the system.
- **Behavioural intention:** Immediate predictor to adopt technology.
- **Adoption behaviour:** The actual use and associated behaviour of the innovation/system.

These relationships were moderated through age, gender, experience, voluntariness and educational level (Venkatesh et al., 2003). According to Venkatesh et al., (2003) and Al Awadhi and Morris (2008), this model is a milestone regarding literature on acceptance theory, and intends to expound upon the user's intentions to employ IS and related usage behaviour. The original UTAUT was subjected to empirical testing and, according

to Venkatesh et al., (2003), demonstrated significant support for the model. Aspects impacting the adoption of SM by citizens in sufficient detail are expounded upon below. Research hypotheses are founded in order to subject the model to testing constructs including in-depth rationale regarding all hypotheses given.

3. Factors affecting citizens' adoption of SM

3.1 Constructs for the UTAUT

3.1.1 Performance expectancy

One strong predicator of the intent to use IT in accordance with previous research was performance expectancy (Venkatesh et al., 2003; Al Awadhi & Morris, 2008; Kingsley et al., 2013), which concerns citizen belief in use and acceptance of SM; it has temporal and financial advantages compared to other channels, which may help improve their performance when communicating with governmental organisations.

3.1.2 Effort expectancy

Several researchers discovered that effort expectancy can impact intent to use and associated behaviour (Schaper & Pervan, 2007; Kingsley et al., 2013). Perceived usefulness, according to TAM, is affected by perceived ease of use; the system is similar and so will have greater utility, according to Wangpipatwong et al. (2008). Conversely, others have propounded the argument that effort expectancy has negligible impacts on intent to use and related behaviour (Chau & Hu, 2001). Effort expectancy is measured by the perceptions of SM ease of use when communicating with governmental organisations, and ease of learning when utilising these tools or services.

3.1.3 Social influence

The subjective norm, as a strong predicator within different theories, reflects the effects of social influence behaviour in TRA, TAM2 and TPB, and is represented as social influence in the UTAUT model aiming to measure user satisfaction based on others' opinions. Social cognitive theory, to evaluate individual behaviour and intension, is widely used and is based on various determined factors such as social influence, cognitive and other personal factors and behaviours (Coskunçay, 2013). Social influence, as a direct or indirect determinant of intent to use a system, can be defined as perceived external pressure one realises towards the cognisant process about innovation, adopting it to another level wherein others consider the use of the new system (Mazman, Usluel & Çevik, 2009). Many studies have demonstrated a positive effect on social influence on behavioural intention in e-government settings (Al Awadhi & Morris, 2008; Al-Shafi & Weerakkody, 2010). In the context of SM for e-government services, social influence is a significant word of mouth (WOM) concept, wherein experience can influence another's decision to adopt (SM). Contemporaneously, SM platforms are facilitating the WOM effect. The use of "Like" or "Tweet" by individuals is subsequently viewed by friends and followers, raising awareness and/or interest (Xitong & Lynn, 2013; Alomari, 2014). This suggests that a positive influence on individuals can motivate large numbers of citizens towards the adoption of SM channels.

4. Added Constructs/Antecedent Factors

4.1 Perceived motivation

Motivation has a significant part to play in tailoring adaptation of e-governmental services (Bwalya & Mutula, 2014). Former research has assessed the part played by motivation concerning Internet usage, confirming it has had a positive effect on emerging and original technology use (Stafford & Stern, 2002). A considerable amount of research has assessed the part played by either extrinsic or intrinsic factors motivating actors regarding users' technology use as well as its adoption. This research provides a broad addition to this through the inclusion of extrinsic motivation (EM) as well as perception-level intrinsic motivation (IM).

4.1.1 Incentives

Some attempt to expand diffusion theory to extra complex adoption situations has been made. For instance, it is up to an organisation to support or not support the adoption of SM communication openly through direct preferences and/or commands and reward systems and motivations (Dillon, 2001). Citizens have different incentives for SM use for different activities. What incentives do governments need to give their citizens to promote two-way communication use? To incentivise citizens to use government2.0, a government should consider the available resources. Margetts and Yared (2003) argue for four governemnt resouces: money,

legitimate authority, time and information and expertise. Although business organisations find financial incentives to attract consumers, public administration, conversely, has to find different ways to encourage and motivate citizens and businesses to adopt new ways of communication to give money to the government. To attract customers to their social platform, many business organisations give rewards (i.e. loyalty points, freebies). The first UK Internet bank, Egg, offered interest rate benefits, an approach subsequently used by major banks as a financial incentive for customers (Margetts & Yared, 2003). SM services and banking services differ, but both show citizens' behaviour towards adopting services in return for rewards. Shao (2009) defines four factors relevant to SM use and adoption: information, entertainment, social interaction and self-expression. Reliable, accurate, dynamic and entertaining information incentivises citizens, although government focus and strategies are needed to attract online users by increasing customer centricity, providing incentives and improved services.

4.1.2 Accessibility

Owing to increasing numbers of governmental SM platforms, traditional polices relevant to access of information and inclusion have to be reconsidered. Information policies should be redirected to the adoption of factors associated with SM (Jaeger, Bertot & Shilton, 2012). Governmental bodies frequently try to reach out using often inaccessible, third-party social tools, trying to embed such tools on their websites which results in a negative impact on their functionality. This indicates disagreement between access strategy and SM tradition. Emphasis must then be placed on developing policies that give priority to the global usability of government SM performance, ensuring equal access for all people globally (Jaeger et al., 2012). Furthermore, the access/quality policy ensures that information includes aspects like "relevancy, accuracy, reliability, and timeliness" (Zmud, Lind & Young, 1990, p. 443). Mandal and McQueen (2012) contend that access/quality would probably have considerable influence as regards accepting SM such as Facebook. Conversely, governmental agencies need to possess verified accounts to stop spoofing behaviour. According to Stowe (2015), this presents an expedient means by which users can guarantee they have access to the correct account and thus generally better their citizens' experiences.

Attributes of SM: SM has become very important as a result of ubiquity and interactivity, two extremely exacting components (Agourram, 2013).

4.1.3 Ubiquity

From the viewpoint of the consumer, a characteristic that it uniquely defining of e-commerce constitutes its ubiquity, in other words, the means it presents by which to engage at all times and places (Agourram, 2013).

4.1.4 Interactivity

Interactive communication is facilitated via an online person-to-person or person-to-people process utilising a number of different websites (Shipps, 2013).

Intrinsic motivation (IM) emerges as a result of experimental research demonstrating that people engage in a number of different behaviours if they are driven by either playful, exploratory reasons or reasons stemming from curiosity, and that this remains true without any incentive or recompense (Ryan & Deci, 2000). A new construct named Perceived Encouragement for Technology Acceptance (Kwon & Wen, 2010) demonstrated that users with higher social identity, altruism and telepresence are more likely to receive encouragement regarding SM platform use. This paper considers three external determinants among the individual characteristics:

4.1.5 Virtual social identity

Social identity theory states that "people aim to improve their personal esteem, and that they endeavour to attain self-conceptualisation", according to Tajifel (1998). Introducing social networking into human interactions has brought about a new dimension regarding social identity theory. Strong social identity reflects individual interest in technological use for different services and it is crucial for government agencies to give citizens a reason to build strong social identity through system quality demonstrating usability, ease of use, quality documentation, system flexibility and reliable and loyal service (Coskunçay, 2013).

4.1.6 Virtual altruism

Altruism can be classified into two types: Kin altruism and reciprocal altruism. According to Rondán et al (2015) using social media in government context kin selection can be ruled out. Reciprocal altruism involves helping other individuals in the hope of reciprocation. In IT contexts, altruistic people are willing to share knowledge to help others (Chen, 2012). Altruistic actions are, according to Fang and Chu (2010), a significant indicator of the intention to distribute knowledge and those individuals who portray altruistic behaviour are keener to distribute knowledge in a virtual community. In one state, the factor that impacted the exchange of knowledge within SM drew on the idea of belonging (Ma & Chan, 2014), and the core motive for altruistic behaviour was found to have a direct and significant effect on knowledge sharing online. In government context, the reciprocal altruism is establishing trust between social media users C2C (Citizen-to-Citizen) C2G (Citizen-to-Government).

4.1.7 Virtual telepresence

Within the social environment, individual presence can lower efforts utilised for psychological transportation. According to Kwon and Wen (2010), telepresence on SM can be considered as transportation which shows departure, arrival and return from a facilitated place. Some academics believe that the virtual realm will grow and develop dialogue between citizens and governments (Baker et al., 2010).

4.2 Trust

Trust in the information system can be differentiated into relationship trust and system trust (Grabner-Kräuter & Kaluscha, 2003). McLeod and Pippin (2009) defined relationship trust as trust between individual human actors in the system. System trust is further differentiated into security trust, privacy trust and system logic trust. Transparency and the right to access a government's information is marked as an important feature of government2.0 for democratic participation, enhancing end-user trust in governmental activities and information, reducing corruption, disseminating decisions and improving informational accuracy and provision (Jaeger & Bertot, 2010; Alomari, 2014). Trust has an influencing role in developed and developing countries (Al-Shafi & Weerakkody, 2010), yet remains a difficult concept to define substantively. A number of trust factors involved in the model impact the intent to use SM as a governmental communicative channel; according to Papadakis (1999), trust in government can be categorised into relationship and institutional trust. Relationship trust reflects the citizen's trust in governments, and possesses these characteristics (Mayer, Davis & Schoorman, 1995):

- Capability: the government's technical and organisational capability to implement e-government.

- Kindness: the government is taking care of services in the best interests of citizens.

- Integrity: the government's honesty and best practices.

The adversarial nature of government on Web 2.0 leads to low levels of trust and citizens should be dissuaded from adopting it as its volatility supports an intermittent trust relationship. A cooperative nature means citizens exploit government2.0 just for cooperation, but avoid e-government when possible. The collaborative nature of government2.0 can cultivate strong trust relationships between citizens and government social network contexts; social activities include profile creation with personal information, sharing personal content and sharing personal status (Coskunçay, 2013). All of these activities expose privacy, thus adoption of such activities requires two objectives of trust: trust in service provider and trust in the service approach. Fulfilment of these objectives means massive end-user satisfaction towards SM adoption, demonstrating that trust has a significant impact towards the adoption of e-government services (Alsaif, 2014).

4.3 Cultural influence

ICT tools, for both developing and developed nations, are a common denominator. Nevertheless, factors like culture are significant regarding the adoption and conceiving of SM tools for interactive communication with government agencies. Culture is a multidimensional factor, and various studies have been developed to classify it (Hofstede, 1997; Schwartz, 1994, Trompenaars & Hampden-Turner, 1998). Different models highlight different elements of societal values and beliefs. According to Hofstede (1997), national culture can be defined as the collective programming of the mind, which distinguishes the members in one human group from another. This study has adhered to Hofstede's (1997) definition and general characterisation of culture which is commonly used and presents a basis to generate cultural divides. This research projects intends to facilitate

an understanding of how culture, on an individual level, may impact citizens' behaviour when utilising SM tools. Hofstede identified four dimensions of national culture difference:

- **Power Distance (PD)**: Refers to the inequality of power between the higher and lower ranks.
- **Uncertainty Avoidance (UA):** The extent to which the members of group or society feel threatened by unknown situations.
- **Individualism *vs.* Collectivism (IDV):** The degree to which people within a nation prefer to act as individuals or group.
- **Masculinity *vs.* Femininity (MAS):** The distribution of emotional roles between genders.

Although Hofstede's classification (1980) has been commonly used and accepted by the academic community, some contend its applicability, arguing that it is founded on the presumption of a homogenous culture and that cultural virtues remain unchanging, thus ignoring pluralism in the cultural dynamic (Ford & Chan, 2003). A number of research studies have discovered that cultural elements have a significant part to play regarding IT/IS and ICT adoption, according to Dwyer et al. (2005).

4.3.1 Power distance (PD)

PD factors mirror a critical connection with culture, reflecting its influence on SM acceptance. Those nations that have a larger PD then have a more negative opinion of the implementation and utilisation of ICTs (Hofstede, 2001). Allen, Deragon and Orem (2008) argue that the higher the PD in a culture is, the lower SM acceptance is. However, the technological paradigm shifts that altered society's operations have also altered the power distribution of societies. Some think SM has a part to play in the development of political discourse, particularly in those social orders where important limitations apply to media practices. Where authorities exert power over their populations, people look for alternative communicative and informative channels of political engagement. More contemporaneously, studies and media specialists have concentrated on citizens' employment of mobile media and SM during times of antisocial behaviour (Mansour, 2012; Van Niekerk, Pillay & Maharaj 2011). New media channels such as these mean that hitherto "otherwise marginalized voices", according to Nersom, Lengel and Cassara (2011), are now given a platform on traditional media. The perceptions regarding the regulations imposed over traditional media and political action were seen by Skoric et al. (2012) as factors increased activity on SM platforms, and opinions of citizens impacted the use of SM, with content production on SM sites increasing along with political activity and self-expression via SM in nations where traditional media outlets were more regulated. Others stress that a relationship exists between culture and e-governmental development and that this relationship is mutual and two-way (Zhao, 2011). For instance, efficacious regulation of e-government can alter the extant power structure or hierarchy of a social order as it permits citizens to interact with their government at all times and locations and thus reduces the power distance index.

4.3.2 Uncertainty Avoidance (UA)

Low-UA nations are able to capitalise on more contemporary technologies (Hofstede, 2001). Two forms of uncertainty, behavioural uncertainty and environmental uncertainty, are naturally present in online transactions (Pavlou, 2003). Bertot et al. (2010, p. 265) have identified that culture, as a significant factor, has affected government openness, anti-corruption efforts, level of political action and citizens' engagement, social interactions, group formations and acceptance of legal changes. Culture has been thought of as a critical factor towards the adoption of technology, especially in developing countries (with high UA). Indeed, despite this significance, limited contributions are available with which to explore this factor (Al-Hujran, Al-Dalahmeh & Aloudat, 2011). Initial inquiries into the characteristics of e-citizens who tend to interact with governments have been undertaken. Hart-Teeter (2003) and Dimitrova and Chen (2006) discovered younger users were more likely to visit government websites and utilise e-government. Additionally, Mergel et al. (2009) have discovered that digital natives (those who have from birth existed within the digital environment) are a significant motive for the adoption of SM. Additionally, a single characteristic that is significant in these digital natives is that they want to express their sentiments on the web, although they wish to avoid the various repercussions of exposing their personality or their identity online if their accounts are traced (Body, 2007). Aida and Majdi (2014) also upheld the opinion that those nations that have a high UA are generally those that have high levels of e-government services operation and adoption. The young generation are generally perceived as agents who will manifest the desire for change within their society (Shah & Abraham, 2009). Indeed, by 2010, 85% of all the world's youth will inhabit developing nations, assuming culture is not immovable and alters over time (Moghadam &and Assar, 2008).

4.3.3 Individualism vs. Collectivism (IDV)

The adoption of a new idea like that of e-government may be seen as a sentiment of content with regard to the group that holds power (Zhao, 2011). Therefore, those nations that have a greater stress in this group may demonstrate a smaller extent of e-government adoption (Kovacic, 2005). Individuals or nations that are more individualistic in their outlook are educated as regards stating their personal opinions and thus are keener to be innovative and utilise new concepts (Ebrumban & de Jong, 2006). Despite this, one more stalwart of developments in recent history is that of mobile devices and mobile services, and this is especially true of developing nations and the least-developed countries too (United Nations E-government Survey, 2010). The rate of adoption and use of mobile devices will probably result in the evolution of e-government within highly collectivist nations, as the cultures of these nations will follow trending information and trends more fastidiously than non-collectivist cultures (Zhao, 2011).

4.3.4 Masculinity vs. Femininity (MAS)

One could also argue that, in those nations which are of high masculinity in nature, there may be a more lenient perspective on the implementation of ICT (Hofstede, 2001), assuming the technology is able to boost efficacy or expediency or assist competitiveness, all of which are significant aspects of a masculine culture. Others maintain the opposite, as females are more caring of those in vulnerable positions, and prefer relationships as well as a higher quality of life. Thus, the feminity dimension may have a positive impact on e-government services too (Aida & Majdi, 2014). In short, the masculinity/femininity dimension could have a mixed influence of IT technology, according to Rhaman (2009).

5. Proposed Research Model

The UTAUT model is extended by integrating cultural factors identified by Hofstede: masculinity, uncertainty avoidance, power distance and collectivism. Trust is a significant factor of the SM environment to examine and predict the user's adoption, and increases the user's intent to utilise SM platforms; thus the UTAUT model is extended to integrate trust as an external variable to examine the influence of trust on UTAUT constructs towards citizens' adoption of SM. To involve the motivation factors, the model is extended and the factor split into extrinsic motivation (from governments as service providers and from attributes of SM) and intrinsic motivation (from individual characteristics). The independent variables are the original UTAUT model factors: performance expectancy, effort expectancy and social influence. Facilitating conditions as determinants of behavioural intention or use behaviour have been excluded from this study as the authors believe that the sample population was already utilising SM, They also had the necessary hardware and software to facilitate this use. Utilisation of SM in e-government remains relatively nascent; the authors selected behavioural intention as their dependant variable, and so the actual usage behaviour was therefore excluded from the model proposed herein. This, the authors believe, does not limit the model in any significant way, and according to Venkatesh and Davis (2000), there exists considerable empirical assistance concerning behaviour and intention.

The proposed model is depicted in *Figure 1*. The arrows show the relationship among constructs and the hypotheses established for each relationship.
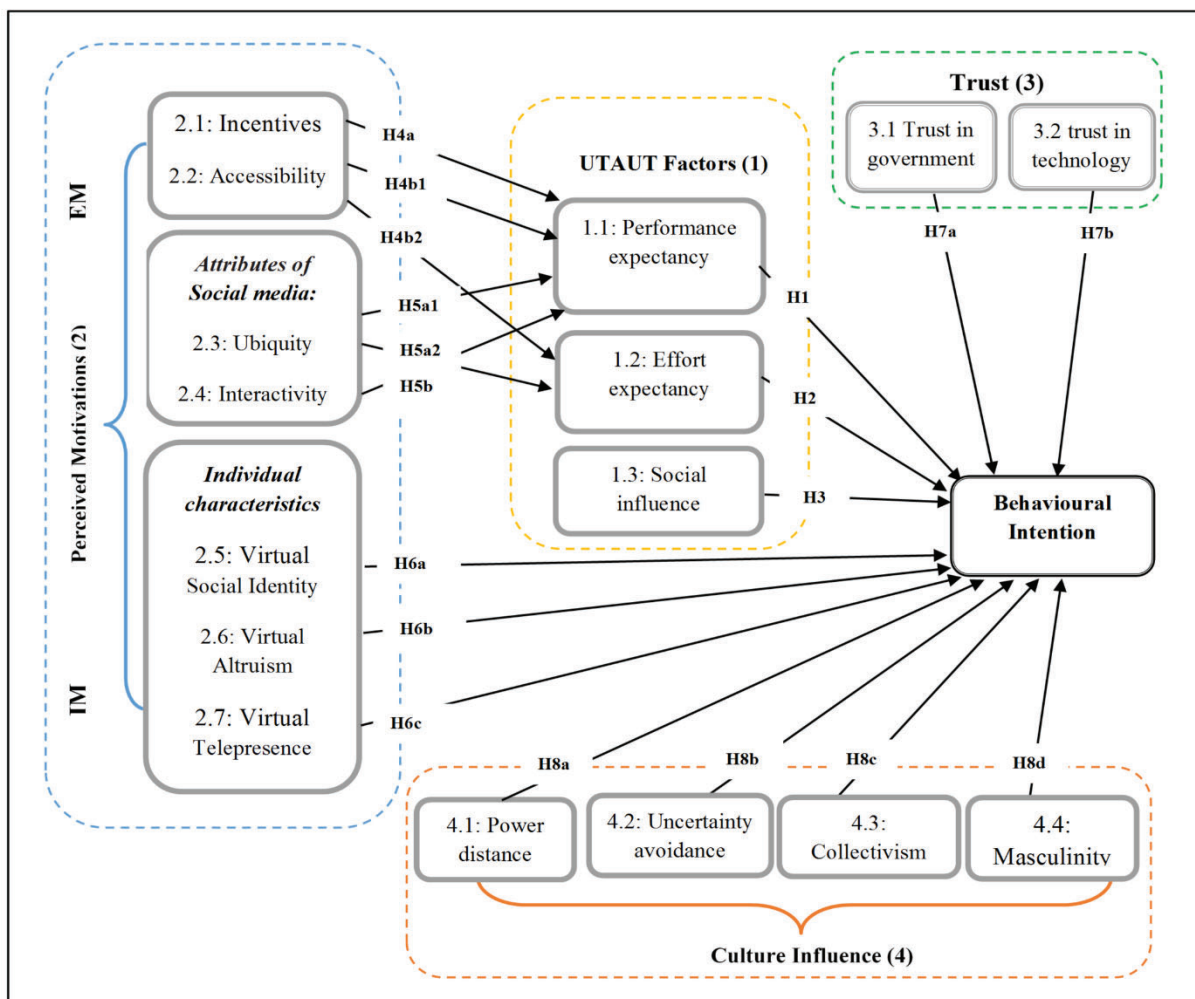
Figure 1: Research model

5.1 Research hypotheses

On the basis of the literature review and the discussions above, the following hypotheses can be developed:

Core factors of UTAUT

> *H1, H2 and H3: Performance Expectancy, Effort Expectancy and Social Influence of SM for e-government services will have a positive and significant influence on the citizen's behavioural intention towards the adoption of SM for communication with the government.*

Perceived motivation

> *H4a: Incentives, as motivation, will have a positive and significant influence on the performance expectancy of SM adoption for communication with the government.*

> *H4b1, H4b2: Accessibility will have a positive and significant influence on performance expectancy and upon effort expectancy of SM adoption for communication with the government.*

> *H5a1, H5a2: Ubiquity, as an attribute of SM, will have a positive and significant influence on performance expectancy and effort expectancy of SM adoption for communication with the government.*

> *H5b: Interactivity, as an attribute of SM, will have a positive and significant influence on performance expectancy of SM adoption for communication with the government.*

> *H6a, H6b and H6c: Virtual social identity, Virtual altruism and Virtual telepresence will have a positive and significant influence on citizens' behavioural intention towards the adoption of SM for communication with the government.*

Trust factors

> **H7a, H7b:** *Trust in government and trust in technology will have a positive and significant influence on citizens' behavioural intention towards the adoption of SM for communication with the government.*

Culture influence

H8a, H8b, H8c and H8d: *Power distance, uncertainty avoidance, Individualism / Collectivism and Masculinity / Femininity factors, from a cultural perspective, will have a positive and significant influence on citizens' behavioural intention to adopt SM for communication with the government.*

6. Proposed methodology

According to Blalock (2005), the three main criteria of any theory are: identifying the constructs; specification of relationships between constructs; testing of relationships. The first two criteria have been expounded upon, while the third criterion, the connection between the above-mentioned constructs from the basis for the research hypothesis to measuring the significance of these factors, and will be examined in the light of a quantitative research approach. The quantitative research approach has a significant impact on testing, analysing and validating hypotheses. Therefore, a survey will be utilised for the data collection stage on the consideration of participants from different SM user citizen groups, and will be administered through web surveys; social networking sites will be used to share the survey link, and the statistical methods below used to analyse the survey.

7. Conclusions, contributions to knowledge and limitations

SM has been utilised by several governments in order to provide an alternative communication channel with their citizens. Many people use SM for social and commercial purposes, avoiding governmental communication, and the argument propounded within this research recommends making SM a more useable channel of communication channel for government-citizen dialogue. Those factors affecting citizens' adoption of SM must be investigated. The importance of identifying these factors stems from their potential to enhance governmental implementation of SM, and their ability to devise more efficacious policies and strategies based on knowledge of the most important factors. Those critical factors and hypotheses discussed herein play a significant role in understanding and analysing SM adoption.

This paper seeks to contribute at both a theoretical and empirical level towards an improved understanding of using SM tools in the government context. The primary advantage of this paper is that those predicators of government2.0 are derived from previous empirical evidence and behavioural theories. This guarantees that the theoretical model suggested herein is sounder, more viable and reliable, and that it creates a basis upon which prospective empirical studies may be conducted on the adoption of SM in the context of e-government. This model can utilised for comparable assessments using different data or a different sample, thereby enabling comparisons of different nations' data.

This research's main limitation was its restriction to SM-user citizens. Therefore, this study excluded some factors such as facilitating conditions and other potential factors that may impact SM adoption among non-SM-user citizens. Thus, the results of this research may be difficult to generalise for a nation's total citizenry. Furthermore, only four cultural dimensions have been chosen, and the fifth dimension to this model, long-term orientation (LTO), was excluded, which covers only a limited number of countries. Although the study by Hofstede, Hofstede and Minkov (2010) presented new measurements concerning almost all countries with a score in other dimensions, such a dimension remains unutilised as the information remains comparatively contemporaneous.

8. Acknowledgement

References

Aida, A. and Majdi, M. (2014). National Culture and E-Government Services adoption: the Tunisian case. *International Journal of Business & Economic Strategy (IJBES), 1*

Agourram, H. (2013). The impact of national culture on online social network usage and electronic commerce transactions. *European Scientific Journal*, *9*(19).

Ajzen, I. (1985). From intentions to actions: A theory of planned behaviour. In Khul, J. and Beckmann, J. (eds.) *Action-Control: From Cognition to Behaviour.* Heidelberg: Springer-Verlag Berlin Heidelberg.

Aladalah, M., Cheung, Y. & Lee, V. (2015). Enabling Citizen Participation in Gov 2.0: An Empowerment Perspective. *Electronic Journal of e-Government*, *13*(2).

Al-Hujran, O., Al-Dalahmeh, M. and Aloudat, A. (2011). The role of national culture on citizen adoption of e-Government services: An empirical study. *Electronic Journal of e-Government*, *9*(2), pp. 93-106.

Alarcón-Del-Amo, M.D.C., Lorenzo-Romero, C. and Del Chiappa, G. (2014). Adoption of social networking sites by Italians. *Information Systems and e-Business Management*, *12*(2), pp. 165-187.

Al Awadhi, S. and Morris, A. (2008). The Use of the UTAUT Model in the Adoption of E-government Services in Kuwait. In *Hawaii International Conference on System Sciences, Proceedings of the 41st Annual* (pp. 219-219). IEEE.

Alharbi, A. and Kang, K. (2014, June). E-Participation Service in Saudi Arabian e-Government Websites: The Influencing Factors from Citizens' Perspective. In *Proceedings of the 14th European Conference on e-Government: ECEG 2014* (p. 265). Academic Conferences Limited.

Allen, S., Deragon, J.T. and Orem, M.G. (2008) *The emergence of the relationship economy: The new order of things to come.* California, USA.

Alomari, M.K. (2014) Discovering citizens' reaction toward e-government: Factors in e-government adoption. *Journal of Information Systems and Technology Management*, *11*(5), pp. 5-20.

Alotaibi, R., Ramachandran, M., Kor, A. L., & Hosseinian-Far, (2015). *Adoption of Social Media as Communication Channels in Government Agencies.*IN Mahmood, Z. Cloud Computing Technologies for Open Connected Government. IGI global.

Al-Shafi, S. and Weerakkody, V. (2010). Factors affecting e-Government implementation and adoption in the State of Qatar. *Proceedings of the European and Mediterranean Conference on Information Systems*, ISEing, Abu Dhabi.

Alsaif, M. (2014). *Factors affecting citizens' adoption of e-government moderated by socio-cultural values in Saudi Arabia.* Doctoral dissertation, University of Birmingham.

Baker, P., Fairchild, A., Pater, J. and Seavey, A. (2010). Community, Participation and Virtual Spaces: Design Considerations for Inclusivity. In *Proceedings of the 10th European Conference on e-Government*.

Bertot, J.C., Jaeger, P.T. and Grimes, J.M. (2010) Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *Government Information Quarterly*, *27*(3), pp. 264-271.

Blalock, H.M. (2005). *Theory construction: From verbal to mathematical formulations*. Englewood Cliffs; Prentice-Hall **.**

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed). NewYork: McGraw-Hill.

Boyd, D. (2007). We googled you: Should Fred hire Mimi despite her online history? Case Commentary. *Harvard Business Review*.

Bwalya, K.J. and Mutula, S.M. (2014). *E-Government: Implementation, Adoption and Synthesis in Developing Countries* (Vol. 1). Walter de Gruyter GmbH & Co KG.

Capgemini (2012). *Assessing user-centric eGovernment performance in Europe – eGovernment benchmark 2012.* European Union. [Online] Available from: https://ec.europa.eu/digital-agenda/sites/digitalagenda/files/eGov_Benchmark_2012%20background%20report%20published%20version%200.1%20.pdf [Accessed on 5 April 2015].

Chau, P.Y., & Hu, P.J.H. (2001). Information technology acceptance by individual professionals: A model comparison approach*. *Decision Sciences*, *32*(4), 699-719.

Chen, H. (2012). Relationship between motivation and behaviour of SNS user. *Journal of Software*, *7*(6), 1265-1272.

Coskunçay, D.F. (2013). Identifying the factors affecting users' adoption of social networking, *International Journal of Human Computer Interaction*, *4*(1), pp. 1-18.

Davis, F., Bagozzi, R. and Warshaw, P. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, *35*(8), pp. 982-1003.

Dillon, A. (2001). User acceptance of information technology. In Karwowski, W. (ed.) *Encyclopedia of Human Factors and Ergonomics.* London: Taylor and Francis.

Dimitrova, D.V. and Chen, Y.C. (2006). Profiling the Adopters of E-Government Information and Services the Influence of Psychological Characteristics, Civic Mindedness, and Information Channels. *Social Science Computer Review*, *24*(2), pp. 172-188.

Dwyer, S., Mesak, H. and Hsu, M. (2005). An exploratory examination of the influence of national culture on cross-national product diffusion. *Journal of International Marketing*, *13*(2), pp. 1-27.

Erumban, A.A. and De Jong, S.B. (2006). Cross-country differences in ICT adoption: A consequence of Culture? *Journal of World Business*, *41*(4), pp. 302-31.

Fang, Y.H. and Chiu, C.M. (2010). In justice we trust: Exploring knowledge-sharing continuance intentions in virtual communities of practice. *Computers in Human Behavior*, *26*(2), pp. 235-246.

Fishbein, M. and Ajzen, I. (1975) *Belief, attitude, intention and behaviour: An introduction to theory and research*, Reading, MA: Addison-Wesley.

Ford, D. P. and Chan, Y.E. (2003). Knowledge sharing in a multi-cultural setting: a case study. *Knowledge Management Research & Practice*, *1*(1), 11-27.

Grabner-Kräuter, S. and Kaluscha, E. A. (2003). Empirical research in on-line trust: a review and critical assessment. *International Journal of Human-Computer Studies*, *58*(6), 783-812.

Hart, D.P. and Teeter, M.R. (2003). The new e-government equation: Ease, engagement, privacy and protection. *Hart-Teeter Research.*

Hofstede, G. (1997). *Cultures and organizations: Software of the mind*, New York: McGraw-Hill.

Hofstede, G.H. and Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage.

Hoftede, G., Hofstede, G.J. and Minkov, M. (2010). *Cultures and organizations: software of the mind: intercultural cooperation and its importance for survival*. McGraw-Hill.

Jaeger, P.T. and Bertot, J.C. (2010) Designing, implementing, and evaluating user-centered and citizen-centered e-government. *International Journal of Electronic Government Research*, *6*(2), pp. 1–17.

Jaeger, P.T., Bertot, J.C. and Shilton, K. (2012). Information policy and social media: Framing government–citizen web 2.0 interactions. In Reddick, C. and Aikin, S. (eds.) *Web 2.0 Technologies and Democratic Governance*. New York: Springer.

Kingsley, J., Adu-Manu, Sarpong, K. and Clement, Y. (2013). A conceptual framework for the adoption of social network technologies (SNTs) in teaching - Case of Ghana. *International Journal of Computer Science Issues*, *10*(5), p. 70.

Kovačić, Z.J. (2005). The impact of national culture on worldwide egovernment readiness. *Informing Science Journal*, *8*, 143-158.

Kwon, O. and Wen, Y. (2010). An empirical study of the factors affecting social network service use. *Computers in Human Behavior*, *26*(2), pp. 254-263.

Lee, J. and Suh, E. (2013). An empirical study of the factors influencing use of social network service'. *PACIS 2013 Proceedings,* AIS, Jeju Island, p. 181.

Linders, D. (2012). From e-government to we-government: Defining a typology for citizen coproduction in the age of social media. *Government Information Quarterly*, *29*(4), pp. 446-454.

Ma, W.W. and Chan, A. (2014). Knowledge sharing and social media: Altruism, perceived online attachment motivation, and perceived online relationship commitment. *Computers in Human Behavior*, *39*, pp. 51-58.

Magro, M.J. (2012). A review of social media use in e-government. *Administrative Sciences*, *2*(2), pp. 148-161.

Mandal, E. and McQueen, R. (2012). Extending UTAUT to explain social media adoption by microbusinesses. *International Journal of Managing Information Technology*, *4*(4), pp. 1-11.

Mansour, E. (2012). The role of social networking sites (SNSs) in the January 25th Revolution in Egypt. *Library Review*, *61*(2), pp. 128-159.

Margetts, H. and Yared, H. (2003) *Incentivization of e-government, to accompany NAO report transforming the performance of HM Customs and Excise through Electronic Service Delivery*. London: The Stationery Office.

Mayer, R. C., Davis, J. H. and Schoorman, F.D. (1995). An integrative model of organizational trust. *Academy of Management Review*, *20*(3), pp. 709-734.

Mazman, S.G., Usluel, Y. K. and Çevik, V. (2009). Social influence in the adoption process and usage of innovation: Gender differences. *World Academy of Science, Engineering and Technology*, Vol. 3, pp. 343-346.

McLeod, A. J. and Pippin, S. E. (2009). Security and privacy trust in e-government: Understanding system and relationship trust antecedents. In *System Sciences, 2009. HICSS'09. 42nd Hawaii International Conference on* (pp. 1-10). IEEE.

Mergel, I., Schweik, C. M. and Fountain, J. E. (2009). The transformational effect of Web 2.0 technologies on government. *Available at SSRN 1412796*.

Mergel, I. (2012). The social media innovation challenge in the public sector. *Information Polity 17*(3), pp. 281-92.

Moghadam, A. H. and Assar, P. (2008). The relationship between national culture and e-adoption: A case study of Iran. *American Journal of Applied Sciences*, *5*(4), pp. 369-377.

Newsom, V.A., Lengel, L. and Cassara, C. (2011). The Arab Spring: Local Knowledge and the Revolutions: A Framework for Social Media Information Flow. *International Journal of Communication*, *5*, 10.

Pai, P. and Arnott, D.C. (2013). User adoption of social networking sites: Eliciting uses and gratifications through a means-end approach. *Computers in Human Behavior, 29*(3), pp. 1039-1053.

Papadakis, E. (1999). Constituents of confidence and mistrust in Australian institutions. *Australian Journal of Political Science*, *34*(1), pp. 75-93.

Pavlou, P.A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, *7*(3), pp. 101-134.

Pedersen, P.E. and Ling, R. (2003). Modifying Adoption Research for Mobile Internet Service Adoption: Cross-Disciplinary Interactions. *Proceedings of the 36th Hawaii International Conference on System Sciences*.

Rahman, H. (Ed.). (2009). *Handbook of Research on E-Government Readiness for Information and Service Exchange: Utilizing Progressive Information Communication Technologies: Utilizing Progressive Information Communication Technologies*. IGI Global.

Ramirez-Correa, P. (2013). Exploration of the factors that affect the adoption of social networking services by generation Y in Chile. *Interciencia*, *38*(9), pp. 628-633.

Rondán-Cataluña, F.J., Arenas-Gaitán, J. and Ramírez-Correa, P. (2015). Travel Buying Behavior in Social Network Site Users: to Buy Online vs. Offline. *Journal of Theoretical and Applied Electronic Commerce Research*, *10*(1), pp. 49-62.

Ryan, R.M. and Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), p. 68.

Schaper, L.K. and Pervan, G.P. (2007). ICT and OTs: A model of information and communication technology acceptance and utilisation by occupational therapists. *International Journal of Medical Informatics*, *76*, S212-S221.

Schwartz, S.H. (1994). *Beyond individualism-collectivism: New cultural dimensions of values*, London: Sage Publications.

Shah, B.P. (2010). *Increasing e-Government adoption through social media: A case of Nepal, Örebro University.* Swedish Business School at Örebro University, Örebro, Sweden.

Shah, N. and Abraham, S. (2009). *Digital Natives with a Cause? A Knowledge Survey and Framework*. Humanist Institute for Cooperation with Developing Countries (Hivos).

Shao, G. (2009). Understanding the appeal of user-generated media: a uses and gratification perspective. *Internet Research*, *19*(1), pp. 7-25.

Shipps, B. (2013). Social networks, interactivity and satisfaction: assessing socio-technical behavioral factors as an extension to technology acceptance. *Journal of Theoretical and Applied Electronic Commerce Research*, *8*(1), pp. 35-52.

Skoric, M.M., Pan, J. and Poor, N.D. (2012, May). Social Media and Citizen Engagement in a City-State: A Study of Singapore. In *Sixth International AAAI Conference on Weblogs and Social Media*.

Song, C. and Lee, J. (2013). Can social media restore citizen trust in government? *Public Management Research Conference*, PMRA, Madison, WI.

Stafford, M.R. and Stern, B. (2002). Consumer bidding behavior on Internet auction sites. *International Journal of Electronic Commerce*, pp. 135-150.

Statista (2014). *Statistics and market data on social media & user-generated content.* [Online] Available from: http://www.statista.com/markets/424/topic/540/social-media-user-generated-content/

Steenkamp, M. and Hyde-Clarke, N. (2014). The use of Facebook for political commentary in South Africa. *Telematics and Informatics*, *31*(1), pp. 91-97.

Stowe, L. (2015). *Verified Social Accounts Are More Important Than Ever.* [Online] Available from: *http://www.govtech.com/social/Verified-Social-Accounts-Are-More-Important-Than-Ever.html* [Accessed on 3 January 2016].

Tajfel, H.E. (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. Academic Press.

Trompenaars, F. and Hampden-Turner, C. (1998). *Riding the waves of culture: Understanding cultural diversity in global business.* New York: McGraw-Hill.

United Nations (2010). *United Nations e-Government Survey 2010: Leveraging E-government at a Time of Financial and Economic Crisis.* New York: United Nations.

Unsworth, K. and Townes, A. (2012). Social media and E-Government: A case study assessing Twitter use in the implementation of the open government directive. *Proceedings of the American Society for Information Science and Technology*, *49*(1), pp. 1-3.

Van Niekerk, B., Pillay, K. and Maharaj, M. (2011). The Arab Spring: Analyzing the Role of ICTs in the Tunisian and Egyptian Unrest from an Information Warfare Perspective. *International Journal of Communication*, *5*, 11.

Venkatesh, V. and Davis, F. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, *45*(2), pp. 186-204.

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), pp. 425-478.

Wangpipatwong, S., Chutimaskul, W. and Papasratorn, B. (2008). Understanding citizens' continuance intention to use e-government website: A composite view of technology acceptance model and computer self-efficacy. *The Electronic Journal of E-government*, *6*(1), pp. 55-64.

Xitong, L. and Lynn, W. (2013). Measuring effects of observational learning and social-network word-of-mouth (WOM) on the sales of daily-deal vouchers. *Proceedings of the Forty-Sixth Annual Hawaii International Conference on System Sciences*, IEEE, Maui, pp. 2908, 2917.

Zhao, F. (2011). Impact of national culture on e-government development: a global study. *Internet Research*, *21*(3), pp. 362-380.

Zmud, R.W., Lind, M.R. and Young, F.W. (1990). An attribute space for organizational communication channels'. *Information Systems Research*, *1*(4), pp. 440-45.