

A systematic literature review and a proposed model on antecedents of trust to use social media for e-government services

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ABSTRACT

Trust is an essential determinant that encourages citizens' behavior to use e-government services. However, despite its importance there is little evidence of research to investigate citizens' trust in e-government services, particularly in context of using social media as a technology platform for e-government services. The objective of this paper is to investigate antecedents of trust to use social media for e-government services from multiple dimensions. A systematic literature review was conducted from published articles between 2007 to 2017 with a relevant discussion on citizen's trust aspects towards e-government services. As a result, 35 articles were selected from 7 electronic databases after an intensive systematic literature review process of searching and using an inclusion and exclusion criteria to extract relevant articles meeting the objective of this study. The findings from the analysis of this review reveal that trust has been mostly discussed in literature as a single component of e-government adoption factors rather than being studied independently. In addition, trust generating factors in context of using social media for e-government services have not received much attention in previous studies. To address this research gap, this study proposes a model that identifies antecedents of trust from multiple dimensions which are classified as individual characteristics, government factors, risk factors and social media characteristics. This study contributes to present a new paradigm for developing citizens' trust to increase their participation in social media-based services of e-government and also highlights directions for future research.

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1. Introduction

In recent years, the world has witnessed an increasing interest in reshaping the public sector by using information and communication technologies (ICTs) to provide services to citizens and other stakeholders. This phenomenon was referred to as e-government by the United Nations (Samijadi, 2017). E-government has introduced new dimensions to promote public services and the process of governance. Government organizations both in developed and developing countries are increasingly investing to harness the power of ICTs as mediating tools to address citizens' concerns towards their access to information, increase organizational

transparency and support collaboration and engagement between government businesses and citizens (Khan, 2015). Social media which is a part of web 2.0 applications is the latest step to use internet or ICT enabled services by the government. Many governments across the world have established their social media presence to promote interactive networking and communication with the public. Social media offers an opportunity for government organizations to be more accessible, responsive and efficient than before, and at the same time, it allows the public to express their views on government policies and the quality of government services (Park et al., 2015). Social media enables government organizations and executives to increase participation and engagement which were also the primary goals of developing most e-government projects (Hao et al., 2016). It has the potential to breed accountability and transparency of governments towards their citizens and stakeholders through increased participation and collaboration with the government (Hao et al., 2016).

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The e-government survey of the United Nations in 2016 reflects that now every 4 out of 5 countries have incorporated social media links in their national web portals. However, the efforts of government organizations and the potential values of social media for e-government services cannot be displayed without addressing citizens' acceptance of such services (Khan et al., 2018b).

Trust has been identified as a major determinant for citizens' adoption of e-government services (Abu-Shanab, 2014). The more citizens' trust in e-government services the better is the chances for their acceptance of such services (Bélanger and Carter, 2008). However, despite the importance of trust, there are limited studies on how to develop citizens' trust to use e-government services (Alzahrani et al., 2017). There is a missing gap of research in the literature to systematically explore antecedents of citizens' trust in e-government services from multiple dimensions. In addition, the context of using social media for e-government services as being a new approach has not received much attention in previous studies. Though the literature has highlighted the need for trust to encourage citizens' participation in government social media services (Park et al., 2015) but there is little understanding about the factors influencing their trust to use such services (Khan et al., 2018b).

The use of social media is a newly emerging practice of e-government with little empirical evidence. The success of such e-government initiatives strongly depends on citizens' trust and their acceptance of these services. Thus, there is a need for government organizations to understand citizens' trust factors to promote their participation in social media-based services of e-government. This study uses a systematic review approach to collect and analyze published studies with an objective to determine the current state of research on various trust aspects of e-government services. This study contributes to provide a comprehensive understanding of multiple dimensions of citizens' trust in e-government services and proposes a new model that identifies antecedents of citizens' trust in the context of using social media as a technology platform for e-government services. The findings of this study also provide useful insights and recommendations for researchers about the areas where more research is needed in the context of citizens' trust to use social media as a new practice for e-government services. The paper is organized as follows: First, the methodology for the systematic literature review is provided, which is followed by a discussion about the results of the review. The next section of the paper presents the proposed model and finally, the conclusion is presented with some limitations and recommendations for future works.

2. Methodology

A systematic literature review (SLR) has been selected as the methodology of research in this paper. The systematic literature review (SLR) uses

some detailed and rigorous criteria to explore, critically evaluate and synthesizes all the literature on a specific topic (Salahuddin and Ismail, 2015). This paper uses a systematic literature review methodology proposed by Brereton et al. (2007) which is used by many researchers consistently in the field of software engineering and information systems. Three significant phases should be adopted to identify related articles in IS research. Their phases are: Planning the review, conducting the review and documentation/reporting of review. The process followed in these phases is discussed in the next section (Brereton et al., 2007).

The planning phase explains the research flow to conduct the review. It involves the development of research questions, the research strategy to search the databases/resources based on some inclusion and exclusion criteria and the data extraction from selected studies. In the review phase, the research work is performed and finally, the data reporting phase involves an analysis of the findings based on the research objectives of the study (Najafabadi and Mahrin, 2016).

2.1. Planning the review

The first step of this phase is to specify the research question of the study. The research questions of this study are as under:

RQ1: What is the influence of trust towards citizens' acceptance of e-government services?

RQ2: What are the antecedents of trust in the context of using social media as a technology platform for e-government services?

Published studies for this research were identified through seven electronic databases: Scopus, IEEE, ACM, Science Direct, Springer link, Taylors and Francis and Google Scholar. The reason for selecting these databases is that they provide the most important and the high impact journals and conference proceedings from the field of information systems in general and particularly in the context of e-government and social media services. After an initial search of the selected databases, additional reference scanning was carried out to ensure that nothing is missed to select a comprehensive set of studies related to this research. The search keywords were chosen to find relevant studies in respect of factors influencing citizens' trust in e-government and social media services which include: "Trust", "citizens trust", "e-government", "social media factors", "government social media", "antecedents of trust", "social networking sites", "adoption factors", and "trust factors". This search resulted to initially identify 291 articles.

2.2. Conducting the review

To conduct the review a systematic analysis of each paper was carried out by reading their abstract to select relevant papers meeting the inclusion

criteria, as follows: Papers published in English, published in the years from 2007 to 2017, and should have a relevant discussion of trust factors in context of e-government or government social media services. The articles must represent citizens' trust perspective in using e-government services or government social media services. Those articles

which are based on the implementation issues, strategies or organizational challenges of e-government or social media services and the studies representing government organizations' perspective on e-government were excluded from this study. Table 1 shows the inclusion and exclusion criteria for this study.

Table 1: Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> English papers including conference papers, journal papers, and book chapters. Papers focused on e-government websites or government social media services with a relevant discussion of trust and other adoption factors. Published from 2007 to 2017. 	<ul style="list-style-type: none"> Studies that are not published in English. Studies that are not related to the research questions of this paper. Duplicate studies in terms of their title or content. Short papers (e.g. poster).

Of the articles studied, 32 were found relevant to meet the objective of this study. In addition, the reference scanning was carried out to ensure if any further relevant articles were not missed in the initial search. After this process, three more articles were found relevant to this study. Thus, finally, a

total number of 35 articles were found to meet the objective of this study. Fig. 1 represents the review process which was followed to check whether the selected studies meet the inclusion/exclusion criteria in this paper.

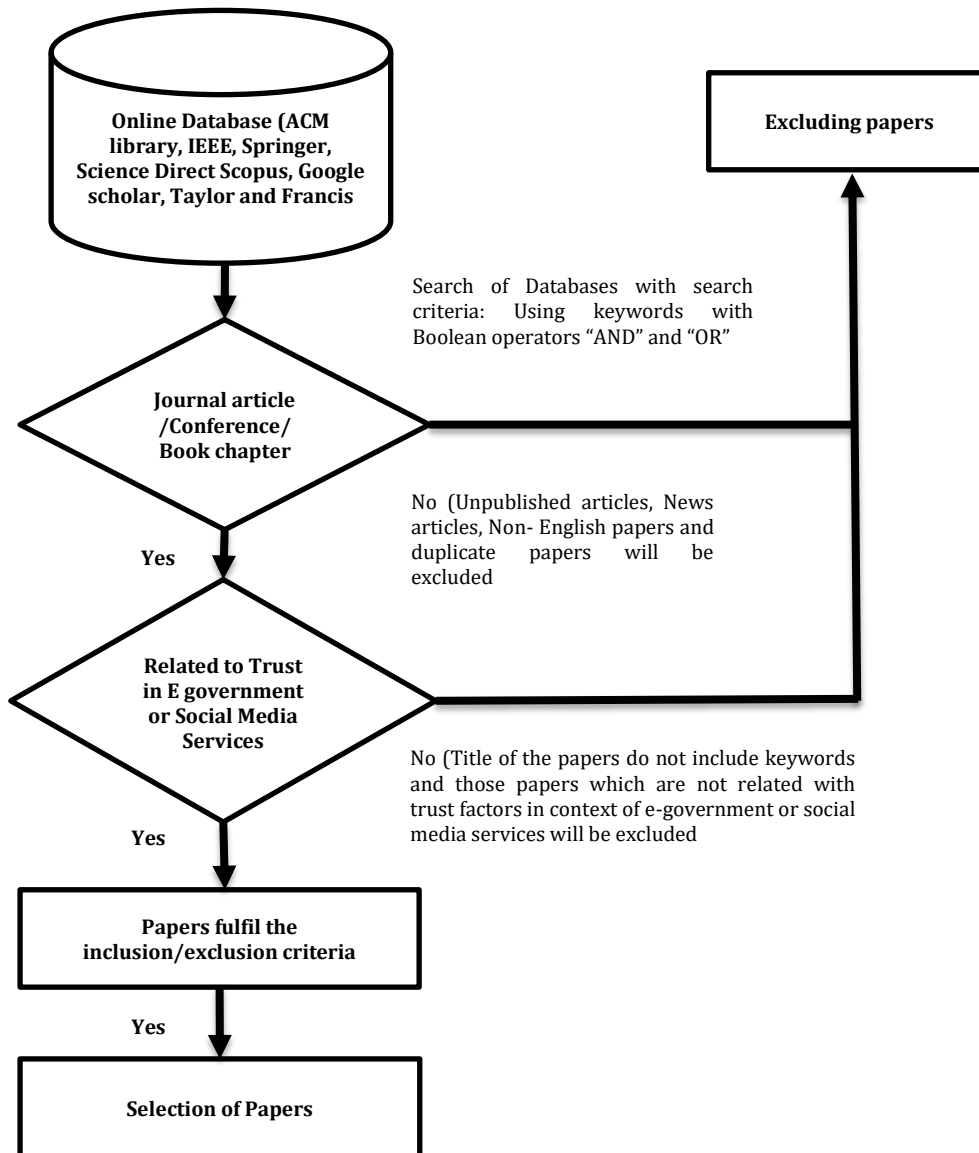


Fig. 1: The review process of the study

2.3. Data reporting

The data collected from 35 articles are reported in Table 2. The first column shows the ID of the paper, which is used to refer to the paper in later discussions. The second column shows the article reference, the antecedents of trust are classified as technology, government, risk and citizens aspects in third, fourth, fifth and sixth columns. The seventh column identifies the dependent variable used in selected studies, eight-column identifies theories or models adopted in selected studies and finally, the ninth column shows major findings resulted from selected studies.

Table 3 shows the numbers of papers found through keywords search from each of the selected databases. The first column represents the database

source. The second column shows the result of the initial extraction of papers from each database. The third column shows the number of papers selected from each source after the elimination of exclusion criteria and following the inclusion process. Finally, the fourth and fifth columns reflect the percentage of relevant studies from each source and percentage of all the relevant selected papers respectively.

Table 4 represents the numbers of a type of study from all selected papers. The major contribution in this systematic literature review is of journal papers that represent around 69% of the selected papers. The conference proceedings and book chapters stand in second and third place of contribution by 28.5% and 2.8% respectively.

Table 2: Summary of previous studies on antecedents of trust

ID	Reference	Antecedents of trust				Dependent variable	Findings
		Technology	Government	Risk	Citizens		
S1	Lee and Lei (2007)	Trust in government website	x	x	x	Intension to use e-government services	Trust and compatibility are important factors towards citizens' intention to use e-government services.
S2	Bélanger and Carter (2008)	Trust of the Internet	Trust of the government	x	Disposition to trust	Intension to use	The results show that the trust of the internet and the trust of the government are positively related to citizens' intention to use e-government. Disposition to trust positively influences the trust of the internet and the government.
S3	Colesca (2009)	Trust in technology, Perceived quality; Perceived usefulness	Organizational trustworthiness	Privacy concerns; Risk perception	Demographic characteristics; Internet experience; Propensity to trust	Trust on e-government	Internet experience, the propensity to trust, technological and organizational trustworthiness, the quality and usefulness of e-government services influence trust in e-government services.
S4	Lean et al. (2009)	x	x	Online privacy; Strength of online non- repudiation; Online authentication	x	Intension to use e-government services	Online privacy and perceived strength of online non- repudiation is positively related to trust. Furthermore, trust, perceived usefulness, perceived relative advantage and perceived image positively influence citizens' intention to use e-government services.
S5	Wang and Lu (2010)	Trust in internet	Trust in government	x	x	Trust in e-government	Trust in government and Trust in the internet are the main factors towards citizen trust in e-government.
S6	Liu and Zhou (2010)	ease of use; usefulness; citizen expectation	x	Perceived risk	x	Citizens' trust	Perceived usefulness, perceived ease of use and citizens' expectations lead towards citizens' satisfaction.
S7	Beldad et al. (2012)	Website quality	Organizational reputation; Previous online experience	Security; Privacy	The propensity to trust; Internet experience	Trust in the organization in the online environment	Perceived risk and citizens' satisfaction enhance citizens' trust.
S8	Alsaghier and Hussain (2012)	Website quality; Ease of Use; Usefulness; Familiarity; structural assurance; situation normality	x	x	Disposition to Trust;	Trust towards intention to adopt e-government services	Perceived privacy, the quality of their online government experience and organizational reputation influence trust in government organizations.
S9	Alomari et al. (2012)	Trust in internet	Trust in government	x	x	E-government adoption	Disposition to trust, familiarity, institution-based trust, website quality, ease of use and perceived usefulness are important factors that can influence trust that leads towards citizens' intention to use e-government services.
S10	Rufin et al. (2012)	Trust in e-government service	x	x	x	Intention to use e-government	Trust in government, design of the website and perceived usefulness are major factors that can affect citizens' intention towards using e-government
S11	Akram and Malik (2012)	Trust in the medium	Trust in government	x	x	e-government adoption	Trust has a significant effect on the intention to use e-government services.
S12	Taiwo et al. (2012)	x	Trust beliefs	x	x	Behavioral intention towards e-government services	Perceived ease of use has a significant relationship with perceived usefulness but not with the intention to use e-government services.
S13	Wang and Lo (2013)	Trust of internet	Trust of government	x	x	Intention to use the government website	Perceived ease of use, perceived functional benefit, trust in medium and citizens' satisfaction influence their adoption of e-govt services.
S14	Zhao and Khan (2013)	Trust on the internet,	Trust in government	x	x	Behavioral intentions towards e-government	Performance expectation, facilitating condition, institutional-based trust, trust beliefs and risk propensity is significant towards intention to adopt e-government services.
S15	Abu-Shanab (2014)	Trust in technology; Information quality; Familiarity with the Internet	Trust in government	Privacy and security concerns	x	Trust in e-government	Trust in the government, facilitating conditions and attitude toward the use of government websites have positive effects on intention to use government websites.
S16	Freire et al. (2014)	Trust in technology	x	x	Social influence	Behavioral intention to adopt e-govt services	Perceived usefulness, the trust of government, trust in internet and computer self-efficacy are important factors influencing citizens' intention to use e-government services in the UAE and the USA.
S17	Ikhilani and Sulaiman	Trust of the	Trust of the government	x	x	Acceptance of G2C	Trust in technology, information quality, trust in government, privacy and security concerns significantly influence trust in e-government.

	(2014)	Internet				Services	effort expectations, social influence, the trust of the internet and trust of government as important factors towards e-government success.
S18	Chen et al. (2015)	Trust in technology	Trust in government	x	x	Trust in e-government website	Trust in technology influences trust in e-government websites which affects the perception of information quality, service quality and system quality on e-government websites.
S19	Susanto and Aljoza (2015)	Trust in technology	x	x	x	Usage Intention	Trust and Social Influence are the most significant factors towards the intention to use e-government services. Whereas perceived ease of use and perceived usefulness have no significant relationship with usage intention.
S20	Mohajerani et al. (2015)	Trust in technology; Information quality	x	Privacy and security concerns	x	Intention to use e-government	Trust in technology, information quality, privacy and security concerns influence trust in e-government which significantly predicts citizens' intention to use e-government services.
S21	Chatzoglou et al. (2015)	Trust in internet	Trust in government	x	x	Intention to use e-government services	Perceived usefulness, peer influence, trust, internet experience, computer self- efficacy and perceived risk are important factors to use e-government services.
S22	Roy et al. (2015)	Trust in technology	x	x	x	e-government usage	Perceived usefulness; perceived ease of use, risk and trust are significant factors towards the intention to use e-government services.
S23	Al Khattab et al. (2015)	Trust in internet	Trust in government	x	x	Intention to use e-government services	That findings show that ease of use, usefulness, risk, and trust in electronic channel influence citizens usage of e-government
S24	Alharbi et al. (2016)	Trust in the Internet	Trust in government	x	Social trust	citizen's intention to engage in e-participation	Trust towards the government, trust in the internet and social trust are influential factors towards citizens' intentions to involve in participation with the government.
S25	Mellouli et al. (2016)	Trust of internet	Trust of government			E-government acceptance	Trust in both government and technology, computer self- efficacy, personal innovativeness, system quality, information quality, and technical compatibility are the determinants of e-government acceptance.
S26	Rodrigues et al. (2016)	Confidentiality and trust	x	x	x	E-government adoption	This study identifies trust, attitude, performance expectations, facilitating conditions and effort expectation as key determinants of satisfaction to adopt e-government services.
S27	Ranaweera (2016)	Trust on the internet; Information quality	Trust in government	Perceived security; Privacy	x	Use of e-government services	Trustworthiness and attitude positively influence the use of e-government services.
S28	Weerakkody et al. (2016)	Information quality; System quality	x	x	x	User satisfaction with e-government services	The findings show that information quality and system quality have a significant relationship with trust and user satisfaction.
S29	Carter et al. (2016)	Trust in internet	Trust in government	x	Disposition to trust	Intention to use e-government services	The results indicate that disposition to trust has a positive relationship with trust. Perceived ease of use, perceived usefulness and internet trust positively influence intention to use e-government services.
S30	Rehman et al. (2016)	Trust in the internet	Trust in government	x	x	Intention to adopt e-government services.	Trust, ease of use, usefulness, and security are important contributors to e-government adoption.
S31	ALotaibi et al. (2016)	Trust in technology	Trust in government	x	x	Behavioral intention	This paper seeks to contribute towards an improved understanding of using social media in the e-government context by showing a relationship of trust, UTAUT factors, and culture with behavioral intention.
S32	Alzahrani et al. (2017)	System quality; Service quality; Information quality	Reputation; Past experience	Performance; Time; Security and privacy	Disposition to trust; Internet experience	Adoption of e-government	The findings provide a conceptual framework about antecedents of trust from multiple dimensions influencing citizens' adoption of e-government websites.
S33	Kurfali et al. (2017)	Trust of internet	Trust of government	x	x	Intention to use e-government services	Trust of the internet, performance expectancy, social influence, and facilitating conditions are significant factors towards behavioral intention to use e-government services.
S34	Lallmahomed et al. (2017)	Trust of internet	Trust of government	x	x	Behavioral intention	The results show that performance expectancy, facilitating conditions, trustworthiness, and perceived value have significant relationship towards the behavioral intention
S35	Almarashde h and Alsmadi (2017)	Perceived trust in technology		x	x	Usage behavior	Social influence, cost, trust, perceived ease of use and perceived usefulness influence behavioral intention which predicts usage behavior towards the government.

Table 3: Studies retrieved from search engines

Source	Papers found	Selected	% of relevant studies	% of all the relevant studies
Science Direct	25	09	36	25.7
ACM	13	02	15.38	5.7
Scopus	25	03	12	8.5
IEEE	54	07	12.96	20
Springer link	16	02	12.5	5.7
Google scholar	83	06	7.2	17.1
Taylor and Francis	75	06	8	17.1
Total	291	35	12.02	100

Table 4: Selected studies type

Study	Count	Percentage
Journal paper	24	68.5%
Conferences Proceeding	10	28.5%
Book chapter	01	2.8%

3. Results and data analysis

The data was analyzed to extract findings related to the influence of trust towards citizens' acceptance of e-government services (addressing RQ1) and to identify antecedents of citizens' trust to use social media for e-government services (addressing RQ2).

To discuss the influence of trust in context of e-government services, it was observed that previous literature has identified trust as the most significant factor towards citizen's intention to use e-government services (Abu-Shanab, 2014; Alsaghier and Hussain, 2012; Ranaweera, 2016; Rehman et al., 2016; Roy et al., 2015). Trust has been mentioned as an essential requirement for the successful implementation of e-government services. However, in the majority of articles trust has been conceptualized in a single perspective identifying technology as a major determinant of citizen's trust or it has been viewed in terms of technology and government factors. Researchers have argued that citizens must have trust in both the entity providing e-government services and the technology through which services are provided (Alotaibi et al., 2016; Bélanger and Carter, 2008; Chen et al., 2015). Thus, it is very important to develop citizens' trust in both the government and the technology platform that is used to provide e-government services. Previous studies have also discussed perceived risk as an important factor associated with trust. According to Liu and Zhou (2010), the risk is closely connected with trust; when there is no risk, there is no need for trust and when risk is present, trust is mandatory. Similarly, Mohajerani et al. (2015) stated that privacy and security concerns have a positive impact on trust in e-government services. There are some studies where the factors associated with risk are addressed directly towards an attitude in using a technology (Roy et al., 2015). However, the importance of risk is always highlighted as a significant factor in using government services. Furthermore, citizens' aspects were also investigated

by a few studies as significant factors influencing trust in e-government services (Beldad et al., 2012; Colesca, 2009). According to Alzahrani et al. (2017), the characteristics of individuals should not be ignored in determining their attitude towards e-government services. Thus, based on the results of this systematic literature review four dimensions of trust have been identified which are: Technology factors, government factors, risk factors and citizens aspects. Table 5 shows the antecedents of trust discussed in previous studies from multiple dimensions.

The results of the review show that out of 35 selected articles, there were only three articles by Colesca (2009), Beldad et al. (2012) and Alzahrani et al. (2017) which have discussed different factors related with these dimensions (i.e. technology, government, risk, citizens) as antecedents of trust to use e-government websites. However, the study by Colesca (2009) has just discussed the identified factors randomly without any categorization of common factors. Beldad et al. (2012) grouped trust factors using internet user-based determinants of trust, organizations-based determinants of trust and web-based determinants of trust. They grouped risk and technical factors into one dimension. The review shows that there was only one article by Alzahrani et al. (2017) which was found to have grouped common factors together into technical factors, individual factors, risk factors and government factors. However, their study was based on a literature review without any empirical evidence. In addition, their study was also limited in the context of using e-government websites only in Saudi Arabia.

Table 5: Findings on antecedents of trust

Trust factors	No. of articles	References
Technology	8	S1, S10, S19, S21, S22, S26, S28, S35
Government	1	S12
Risk	1	S4
Technology+Risk	2	S6, S20
Technology+Government	13	S5, S9, S11, S13, S14, S17, S18, S23, S25, S30, S31, S33, S34
Technology+Citizens	2	S8, S16
Technology+Government+Risk	2	S15, S27
Technology+Government+Citizens	3	S2, S24, S29
Technology+Government+Citizens+Risk	3	S3, S7, S32

3.1. Theoretical foundation

The majority of studies have used the technology acceptance model (TAM) to examine the role of trust in government services by testing ease of use and usefulness as factors influencing trust. Fig. 2 shows the studies that have used a theory or model to develop their research model in the context of e-government websites or social media services. It was noticed that there are some studies that are not based on any theory or model to develop a research model of trust in e-government. Furthermore, it was

also observed that there are some studies that have utilized more than one model in their research.

3.2. Research approach

The quantitative method was the dominant method used in most of the research studies. The research approach of the reviewed papers is illustrated in Fig. 3 that shows the qualitative method was used by only one study, while four studies used a mixed approach (Quantitative and Qualitative).

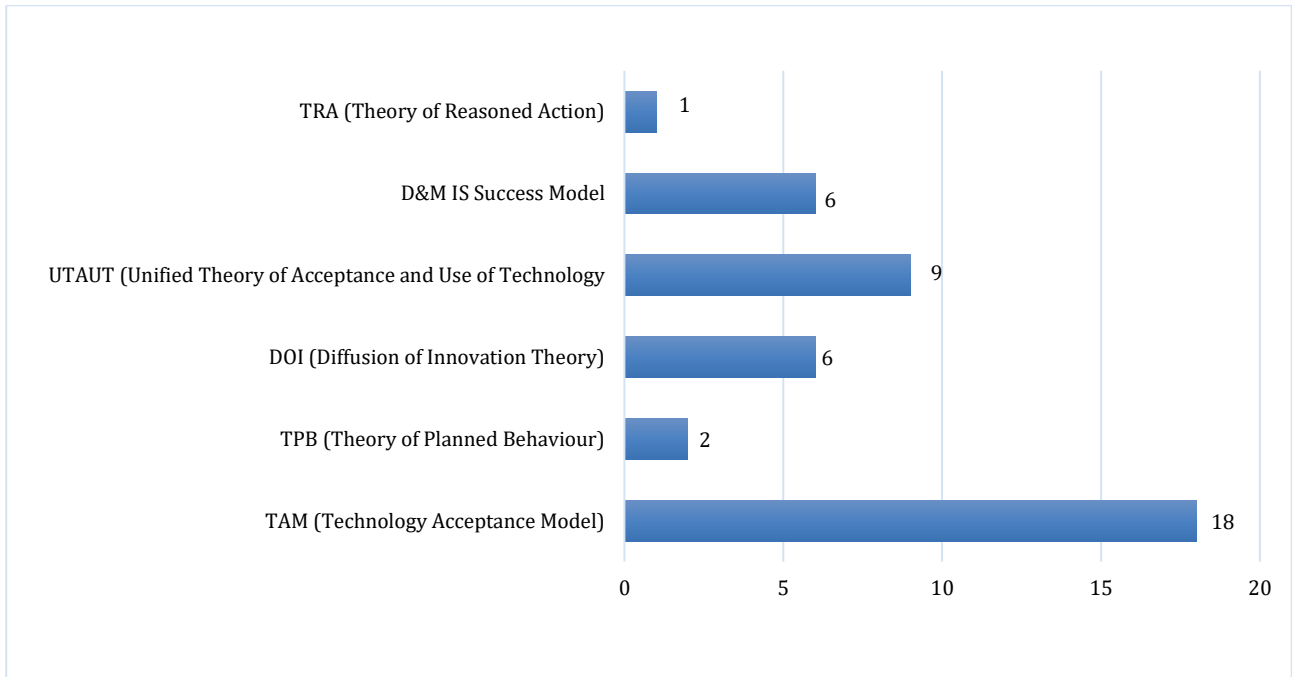


Fig. 2: Theoretical foundation

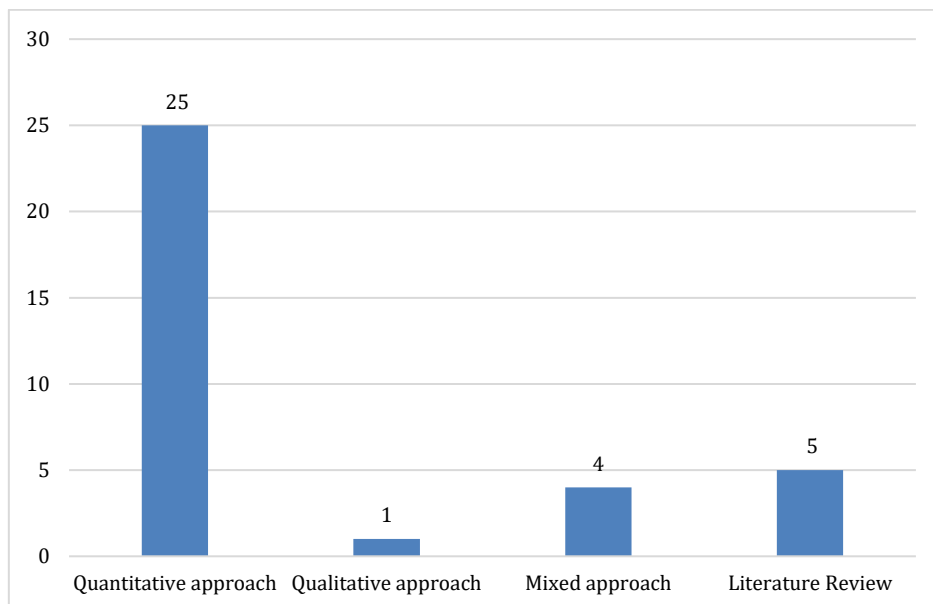


Fig. 3: Research approach

The role of social media has been acknowledged to bridge the relationship gap between the government and the public through participation and engagement (Alotaibi et al., 2016). In recent years, researchers have recognized the use of social media and its correlation with citizens' trust (Franks and Driskill, 2014). The result of this review shows that despite the importance of trust in using social media-based e-government services there is not enough research in this domain. The focus of the majority of previous studies on the relationship of trust between government and public was based on e-government websites. The context of using social media as a technology for government services has not received much attention in previous studies. Trust on both government and social media technology has a positive influence on citizens' intention to use social media-based services of e-

government (Alotaibi et al., 2016). However, being a relatively novel approach to providing e-government services through social media, the majority of previous studies in this domain are merely based on the literature review and lacks to provide any empirical analysis. This is evident from the results of this review that the research on the use of social media in e-government services is relatively immature as compared to the research on e-government websites, especially from citizens' trust perspectives. Thus, more research is needed to investigate citizens' trust from multiple dimensions to provide a comprehensive understanding of the antecedents of citizens' trust to promote their participation in government social media services.

Table 6 is a presentation of the factors influencing trust from the reviewed article in the context of government services. The results indicate that the

identified factors are quite limited to explain the antecedents of citizens' trust from multiple dimensions. Previous researchers have mostly used trust in technology and trust in government in general terms (individual constructs or variables) as antecedents of trust without specifying the corresponding factors which are related to technology and government dimensions. Though a few studies have shown a range of factors influencing trust as mentioned in Table 6, the

frequency of their appearance has been mostly limited with one or two studies. Among all factors and only disposition to trust, perceived security perceived privacy and information quality were those factors that were examined and validated in three or more studies. Therefore, due to the lack of studies on citizens' trust factors in e-government services, it is important to identify more factors to propose the model of this study from multiple dimensions of citizens' trust.

Table 6: Trust enabling factors in E-government

Factors	Hypothesized Studies	Empirically Validated
Disposition to trust	S2, S3, S7, S8, S29, S32	S2, S3, S8, S29
Internet experience	S7, S32	S7
Security	S7, S15, S20, S27, S32	S15, S20, S27
Privacy	S3, S4, S7, S15, S20, S27, S32	S3, S4, S7, S15, S20, S27
Performance risk	S32	×
Time risk	S32	×
Online Non-repudiation,	S4	S4
Online authentication	S4	×
The reputation of government organization	S7, S32	S7
Experience with government	S7, S32	S7
Website quality	S7, S8	S8
Information quality	S15, S20, S27, S28, S32	S15, S20, S27, S28
Internet familiarity	S8, S15	S8
System quality	S28, S32	S28
Service quality	S32	×
Perceived ease of use	S8	S8
Perceived usefulness	S3, S8	S3, S8

4. Findings

As discussed above that a range of factors influencing trust in e-government services have been identified but most of them have been mentioned one or two times and very few of them have been empirically validated in previous trust literature as illustrated in Table 6. This indicates that citizens' trust has not been thoroughly investigated by multiple dimensions in the public sector. Therefore, to propose the model of this study more empirical studies on factors influencing trust were identified from the trust literature which is based on the different contexts of online services in both the public and private sectors. It is worthwhile to

mention here that those factors which were found supported (empirically validated) in the trust literature are considered in this study and are further classified into four dimensions which are: Individual characteristics, government factors, risk factors and social media characteristics as summarized in Table 7. The first column shows the dimension of trust, the second column represents the factors in the respective dimensions and the third column shows the literature sources/references that have validated the identified factors of this study in different domain of online services, but not in the current context of using social media for e-government services.

Table 7: Factors influencing trust in government social media services

Antecedents of Trust	Constructs/Factors	References
Individual characteristics	Disposition to trust	(Bélanger and Carter, 2008; Colesca, 2009; Colquitt et al., 2007; June et al., 2006; Kim and Prabhakar, 2004; Kivijärvi et al., 2013; Mayer et al., 1995; Xin et al., 2015)
	Uncertainty avoidance	(Doney et al., 1998; Xin et al., 2015)
Government factors	Ability	(Colquitt et al., 2007; Davis et al., 2000; June et al., 2006; Mayer and Davis, 1999)
	Benevolence	(Colquitt et al., 2007; Davis et al., 2000; June et al., 2006; Mayer and Davis, 1999)
Risk factors	Integrity	(Colquitt et al., 2007; Davis et al., 2000; June et al., 2006; Lee and Turban, 2001; Mayer and Davis, 1999)
	Perceived privacy	(Al-Sharafi et al., 2016; Colesca, 2009; Gupta and Dhami, 2015; Lean et al., 2009; Mayeh et al., 2013; Ramos et al., 2018; Ranaweera, 2016; Susanto et al., 2013)
	Perceived security	(Al-Sharafi et al., 2016; Ponte et al., 2015; Gupta and Dhami, 2015; Mayeh et al., 2013; Normalini and Ramayah, 2017; Ramos et al., 2018; Ranaweera, 2016; Susanto et al., 2013)
	Structural assurances	(Gefen et al., 2003; Kim et al., 2009; Kim and Prabhakar, 2004; Oliveira et al., 2014; Xin et al., 2015)
Social media characteristics	Information quality	(Abu-Shanab, 2014; Ayyash et al., 2013; Ponte et al., 2015; Nicolaou and McKnight, 2006; Ranaweera, 2016; Wang, 2017; Weerakkody et al., 2016)
	Perceived ease of use	(Al-Sharafi et al., 2017; Alsaghier and Hussain, 2012; Ayyash et al., 2013; Belanche et al., 2012; Gefen et al., 2003; Ramos et al., 2018)
	Perceived usefulness	(Alsaghier and Hussain, 2012; Ayyash et al., 2013)

A model has been proposed to provide a holistic view on the antecedents of citizens' trust in using social media for e-government services as illustrated in Fig 4. The model also reflects the influence of trust towards citizens' intention to use social media for e-government services. Antecedents of trust in Fig 4

represent the group of factors that can influence citizens' trust in using social media-based services of e-government which are classified as individual characteristics, government factors, risk factors and social media characteristics and are discussed below in this section.

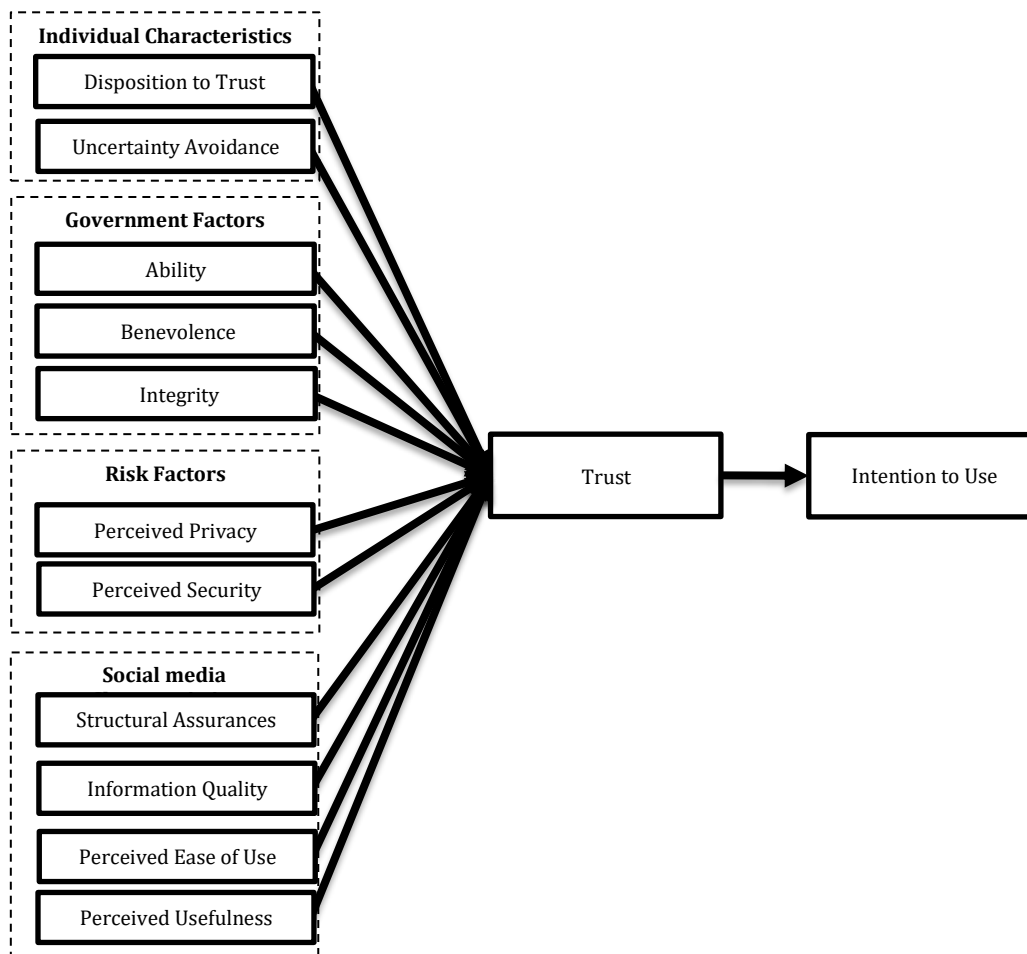


Fig. 4: Proposed model

4.1. Individual characteristics

Disposition of trust refers to the individuals' tendency to trust on other people/technologies. Some people are willing to trust technology or system more than the others (Mayer et al., 1995) whereas, some people need a great deal of information to trust new innovations/systems. Researchers have highlighted disposition to trust as a major determinant of trust in different contexts of online services (Colesca, 2009; Colquitt et al., 2007; June et al., 2006; Xin et al., 2015). Since the use of social media for e-government services is still in initial phases of development, thus it's logical to assume some relationship of individuals' disposition towards their trust in using such services.

Uncertainty avoidance is referred to as the level of risk tolerated by people when they are in uncertain situations (Srite and Karahanna, 2006). Uncertainty avoidance has been cited in the literature as having a close relationship with trust (Doney et al., 1998; Khan et al., 2018a; Xin et al., 2015) but has hardly been discussed as an

antecedent of trust in e-government services. In the context of this study, uncertainty avoidance can be considered important due to the novel nature of using social media in e-government services. At the initial stages, citizens might feel uncertainties/risks about the functioning of these services, which may hinder their participation in social media with government organizations. Thus, the relationship of uncertainty avoidance with trust needs investigation in the context of this study.

4.2. Government factors

The trustworthiness of government organizations has an important role in citizens' adoption of e-government services (Khan et al., 2018a). Literature has highlighted ability, benevolence and integrity as the most significant factors of trustworthiness in different domains of online services (Colquitt et al., 2007; June et al., 2006; Mayer and Davis, 1999) and are therefore considered to be investigated in the context of this study. Ability represents the competency or skills of government organizations to

provide social media-based services of e-government. Benevolence represents citizens' belief that government organizations are concerned about citizens' welfare in providing such services and integrity represents their honesty and promise-keeping practices with citizens (Khan et al., 2018a; Mayer and Davis, 1999).

4.3. Risk factors

Previous studies have mentioned a strong correlation between risk and trust in online services (Alzahrani et al., 2017; Mayer et al., 1995). Perceived risk is referred to as the extent that there is some feeling of uncertainty regarding a negative consequence of using some service. Perceived risk is more complicated in the context of using social media-based services of e-government because social media platforms are managed by third parties which are beyond the control of government organizations (Mergel, 2013). Perceived security and perceived privacy have been mentioned the most significant risk factors that may influence citizens to trust in adoption of online services (Gupta and Dhami, 2015; Khan et al., 2018a; Mayeh et al., 2013; Ranaweera, 2016) and thus are considered to be investigated in this study.

4.4. Social media characteristics

The characteristics of a technology that is used to provide e-government services influence citizens' trust in using that technology (Beldad et al., 2012). Structural assurances that ensure the presence of legal, contractual or physical support to use technology are positively related in developing citizens' trust towards that technology. The relationship of structural assurances with trust has been validated in different domains of online services (Kim and Prabhakar, 2004). The need for structural assurances in the context of government social media services is much important to attract citizens' acceptance to use such services (Khan et al., 2018a). Similarly, information quality has been mentioned to significantly influence citizens to trust in e-government services (Abu-Shanab, 2014; Ayyash et al., 2013; Ranaweera, 2016). In the context of government social media services, there is a variety of information on social media and thus the need for reliable, relevant and timely information is much important to generate citizens' trust in these services. Perceived ease of use and perceived usefulness are also two important factors that represent citizens perception about the effortless use of any system/technology and its usefulness to improve the system were also found to have a positive relationship with trust (Alsaghier and Hussain, 2012; Ayyash et al., 2013). Thus, this study also considers investigating the influence of both perceived ease of use and perceived usefulness towards citizens' trust in using social media for e-government services.

5. Conclusion, contributions, limitation, and directions for future research

A systematic literature review was conducted to provide an in-depth understanding of the factors influencing citizen's trust in e-government services. This study extends the body of knowledge about trust in e-government services with consideration of both technical and non-technical perspectives. The literature review of selected articles shows that antecedents of trust in e-government services have not been thoroughly investigated from multiple dimensions. The majority of previous studies have mainly focused on two dimensions to determine citizens' trust in e-government services which are trust in technology and trust in government. Though risk factors and individual aspects of citizens' have been discussed by a few researchers but have not been addressed thoroughly together with technological and government factors. In this paper antecedent of trust are classified into four dimensions which are individual characteristics, risk factors, government factors and social media characteristics. Though a few studies have generally discussed the importance of these dimensions (government, technology, risk and individual characteristics) but have not addressed the antecedents/factors in these dimensions, which is a major contribution of this study.

The results reveal that the majority of previous studies on the relationship of trust between government and citizens' have been conducted on e-government websites. The use of social media for e-government services is an emerging phenomenon and very little research has been carried out in this domain, particularly from citizens' trust perspective. Thus, this study also contributes to propose a model that identifies the antecedents of citizens' trust from multiple dimensions in the context of using social media as a technology platform for e-government services. This study provides valuable insights to government organizations to understand the importance of trust and its influential role in attracting citizens' acceptance of e-government services through social media platforms. The results of this study may enable government organizations to design appropriate measures for improving citizens' participation in social media for e-government services by developing their trust in such services. Since the use of social media in e-government is still a new field of research, the results of this systematic literature review can serve as a reference for other researchers in this field. It can help the researchers to get relevant ideas when seeking to study citizens' trust to increase their participation in social media-based e-government services.

This study is ongoing research and has certain limitations. Firstly, the results of this study are based on secondary data in the context of citizen's trust in using e-government websites or social media services. The results cannot be considered complete unless the proposed model is validated with

empirical results. Secondly, the results of this systematic literature review are based on seven electronic databases. Future studies might explore more databases and journals with the use of other combinations of keywords like “culture” etc. Thirdly, the articles used in this study were published in the period from 2007 to early 2017. Since the research on social media for e-government is in early-stage therefore quite possibly more publications will continue to surface. Therefore, future research should use more recent publications in this domain.

Compliance with ethical standards

Conflict of interest

The authors declare that they have no conflict of interest.

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