

# The Influence of Transformed Government on Citizens' Trust

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In recent decades, citizens' trust and confidence in their governments has declined. Electronic government (e-government) is seen as a means to reverse this trend. Although the literature draws conflicting conclusions, there is a consensus that e-government led transformation of government can improve citizens' trust in government. This research empirically investigates the influence of an e-government led transformation of government on citizens' trust and confidence in the context of a developing country. A conceptual model is developed, tested and validated using an online survey targeting ordinary citizens of the Kingdom of Bahrain. Based on 313 responses, the findings suggest that citizens' trust and confidence in their government is positively influenced by transformation of government mediated by government performance and citizens' satisfaction. The study shows that to achieve a transformed government using e-government, other key factors must also be met, which are transparency, accountability and meeting citizens' expectations.

Keywords: trust and confidence; e-government; government; transformation

## 1. Introduction

A review of the e-government and public sector literature establishes that over the past few decades, citizens' trust in their governments has continued to decline. It was expected that by implementing e-government systems as a mediator between government and citizens, this decline would be reversed (West, 2004; Morgeson & Petrescu, 2011; Morgeson, 2013; Teo, Srivastava, & Jiang, 2008; Morgeson, VanAmburg, & Mithas, 2011; Edwards, 2015; Bean, 2015; World Employment and Social Outlook Trends, 2015; 2016; 2017). However, this has not been the case (Teo et al., 2008; Morgeson et al., 2011; Bannister & Connolly, 2011; Mahmood, Osmani, & Sivarajah, 2014; Mahmood & Weerakkody, 2014). This is evidenced by the low levels of citizens' adoption of and participation in e-government, in spite of advanced online platforms deployed around the world (United Nations e-Government Survey, 2014). Therefore, it is posited that the adoption of e-government alone will not resolve this issue. The literature yields few studies that have investigated this topic in-depth, and due to conflicting opinions and conclusions (see for e.g. Hong, 2013; Myeong, Kwon, & Seo, 2014; Teo et al., 2008; Tolbert & Mossberger, 2006; Morgeson et al. 2011; Bannister & Connolly, 2011; Welch, Hinnant, & Moon, 2005; West, 2004), this area remains poorly understood. Moreover, the literature shows that the number of studies that investigate citizens' trust and confidence in government as a dependent variable are limited and these have not been given proper attention (Tolbert & Mossberger, 2006; Morgeson et al., 2011, Welch et al., 2005).

In the context of this research, the introduction of e-government systems in the developing Gulf Corporation Council (GCC) countries a decade ago dramatically altered the way governments interact with their citizens. It also resulted in improved quality of services, increased effectiveness and efficiency of governments, and improved transparency and cost savings. As a developing region, the GCC countries treated e-government implementation as a strategic priority. Most countries in the region achieved advanced stages of e-government including multi-channel access (e.g. mobile, kiosk, PC based) which is confirmed in United Nations e-Government Surveys released in 2012,

2014 and 2016. Bahrain, a developing country and one of the GCC countries, has the most advanced and mature e-government system in the GCC and Arab region. This is evidenced from the top rank held by Bahrain in the United Nations e-Government Surveys (2016). E-government in Bahrain makes over 300 e-services available to citizens, improving their engagement with government and enabling the government to offer better quality of services. However, the literature addressing the GCC, and Bahrain in particular, focuses mainly on factors related to e-government adoption (Salmi & Hasnan, 2016; Weerakkody, El-Haddadeh, Al-Sobhi, Shareef, & Dwivedi, 2013; Al-Shafi & Weerakkody, 2010). No study of the GCC region was found to have investigated trust in government as a dependent variable with other factors influencing trust.

This subject is important and has the potential to affect the way governments and citizens relate to each other. It is suggested that transformation of government has the potential to reverse the decline in citizens' trust and confidence in government (Waller & Weerakkody, 2016; Zwahr, Finger, & Müller, 2005; Bannister & Connolly, 2011). However, understanding how such a transformation relates to citizens' trust and confidence in government requires an understanding of the factors that can transform governments.

This research was conducted in Bahrain, a developing country, to investigate the influence of transformation of government on citizens' trust and confidence in the government as well as identifying major factors that contribute to successful transformation of government. The advanced state of e-government systems in Bahrain as well as the gap found in the literature between the global and GCC level in relation to studies in e-government, offer the motivation for this study.

The relevance of this research lies in its contribution to the growing body of knowledge relating to a range of important concepts, which include: e-government; transformation of government; citizen behaviour in terms of expectation, satisfaction, trust and confidence in government; accountability and transparency. The research aims to extend currently applicable theories to new linkages among constructs proposed in the conceptual model, and to test the applicability of those theories in Bahrain, either by confirming or disaffirming the linkages. The outcomes of this research have implications for practical aspects of governance in a rapidly changing, developing country environment such as Bahrain. In particular, transformation of government will contribute to the wider socio-economic development of the country and this is significant as Bahraini citizens' ability to understand what happens in government and how the government deals with them has altered significantly over the years. This is seen to affect their trust and confidence in the government.

The purpose of this paper is to identify the factors affecting the transformation of government and how this influences trust and confidence of citizens. A conceptual model is proposed and tested in Bahrain and three research questions are posited for this research:

- (1) Which factors influence transformation of government?
- (2) How do these factors influence transformation? and
- (3) can transformation of government be related to trust and confidence in citizens?

The rest of the paper provides a broad overview of the relevant literature along with supporting theories, followed by the presentation of a conceptual model, the relationships between constructs and hypotheses with evidences from the literature for the same. Then, the research context is presented. The research methodology used for the study is outlined next, followed by illustrative results of the pilot and major study conducted in Bahrain. A discussion follows this where the practical the theoretical implications of the study are outlined. The paper then closes with some concluding remarks limitations and recommendations for future research.

## **2. Factors Affecting the Transformation of Government**

Over the past few decades, there has been an evident decline in the trust and confidence of citizens in government (Bannister & Connolly, 2011; West, 2004; Morgeson et al., 2011; Morgeson & Petrescu, 2011; Morgeson, 2013). It is suggested that a range of factors affect citizens' experience of engaging with their governments. Governmental regime, political trust, citizen satisfaction, accountability, transparency, government performance, technology and associated aids, expectation and perception, and transformation of government along the way act as derivative factors. Even though e-government has been seen as a way to improve citizens' communication with government (Liu & Zhou, 2010), it is noted that citizen trust is an intricate perception.

In spite of several attempts, trust in government and e-initiatives has continued to decline over the years. For instance, authors such as Morgeson et al. (2011) have investigated the relationship between the internet and trust in Washington mediated e-government to assess any influencing factors. No apparent significant correlation with trust in government could be established. However, researchers elsewhere have reached different conclusions on the influence of e-government and government take-up of ICT on trust and confidence in government (Mahmood & Weerakkody, 2014; Hong, 2013; Myeong et al., 2014; Teo et al., 2008; Tolbert & Mossberger, 2006; Bannister & Connolly, 2011; Welch et al., 2005; West, 2004).

There is a counterargument that e-government can lead to better relationships between citizens and government, while lending credibility to policies through widespread public access (Tolbert & Mossberger, 2006). Yet it is noted that the traditional government setup needs to alter as demand for governmental transparency grows. It has been established that in order to improve performance, e-government, technology and expectation need to be linked together in a holistic way (Bannister & Connolly, 2011). Transformation is deemed to be an independent variable, expected to increase citizens' perception of government through evident trust and confidence (Morgeson et al., 2011). Primarily, research shows government performance and satisfaction of citizens as the main derivatives for this endeavour's success. The literature review suggests that e-government as a tool, citizen expectations, transparency, accountability, transformation of government, performance of government and citizens' satisfaction are all key factors that influence citizens' trust and confidence in their government. The sections below expand on these factors.

According to West (2004), e-government refers to the delivery of government-related information and services online through the internet or other digital means. The influence of adopting e-government regimes around the globe has changed the way governments provide their services to citizens. E-government was viewed as a means to

reverse the decline in citizens' trust in their governments (Teo et al., 2008; Tolbert & Mossberger, 2006; Morgeson et al., 2011). Additionally, it is seen as a way to reflect transparency and accountability and is deployed to meet society's needs and expectations through public services and facilitating an effective communicative channel with governments (Liu & Zhou, 2010).

Technology refers to information technology and its impact on performing business management (Al Rub, 2006). It is the information technology platform, systems and technologies used by government departments that will enable them to provide e-government services as well as be part of the transformed government. By adopting information technologies within their operations, governments can fulfil their responsibility towards their citizens in a more effective and transparent manner (Hiller & Belanger, 2001).

Chen, Wei, & Chen (2003) define transparency as the ability of outsiders to assess the true position of a company. In the context of this paper, it is considered as an important factor in the transformation and enhancement of the performance of a government (Bannister & Connolly, 2011). Song and Lee (2013) suggest that government transparency can be achieved through positive information propagations and the release of entreated details by the government. It is no surprise that technology has improved the communication between citizen and government, thus facilitating a transformational effect. It is noted that citizens' e-satisfaction results from various factors; and greater transparency can foster institutional-based and process-based trust and confidence in government (Welch et al., 2005). Whilst it is understood that the proclamation of information by government is subjective, and whilst there is no way of knowing whether information provided by a government site is correct and complete, people are nevertheless more likely to trust a service and a government if they are aware of its activities.

Most definitions found in the literature that relate to accountability are concerned with providing reasons and justifications for activities and actions by the one who is responsible to whomever it is answerable (Giddens, 1984; Huse, 2005; Gray, Owen, & Maunders, 1987; Williams, 1987; Roberts & Scapens, 1985; ISEA, 1999; Swift, 2001). On the other hand, Chen et al. (2003) define accountability as the accountability of management to the stakeholders. In the context of this paper, accountability refers to the accountability of government departments to its citizens, which means the readiness of the government departments to provide justifications for its conduct. E-government uses technology to produce efficient, effective, transparent and accountable informational and transactional exchanges within the government. Thus, a level of transformation is evident in the interaction between government and citizens (Yigitcanalar, 2003).

Expectation was defined by Parasuraman, Zeithaml, and Berry (1988) as what customers think a service should offer rather than what might be on offer. Nam (2012), points out that public expectation and the perception gap are the most determining factors that facilitate decline in the public's trust in government. As a result, raising public trust in government will require finding a way to overcome the information gap between the public and the government. Today, most governments realise they need to be forward-thinking to manage administering services properly and to engage and empower citizens effectively. Technology is therefore directed to increase productivity, but also to support citizen expectations. These changing trends have made governments invest in the said

expectations. Innovative governments are creating ways to reach out to citizens and make their voices heard, while giving them the ability to provide input into government (Hanna, 2009).

The above factors play an important role in transforming government from traditional to digital. In turn, this transition has the potential to influence the performance, effectiveness and efficiency of governments, improved quality of services, cost savings, socio-economic development, citizens' satisfaction levels and lastly trust and confidence in government. Here, three factors appear to be linked with the transformation of government: (i) performance of the government; (ii) citizens' satisfaction; and (iii) trust and confidence in government. Transformation refers to changes in process, structure, lines of authority, locus, power, *etc* (Bannister & Connolly, 2011). Hameed and Al-Shawabkha (2013) describe performance as an organisation's ability to use existing resources in an effective and efficient manner, to reach the highest levels of success and progress in the future. Morgeson et al. (2011) define satisfaction to be the sum total of a citizen's sense of fulfilment with his or her experience. The dependent variable is trust and confidence in government. Trust refers to "the level of confidence citizens have in their government to 'do the right thing', and to act appropriately and honestly on behalf of the public" (Barnes & Gill, 2000, p. 4), whereas confidence refers to the specific agency experienced and the citizen's confidence that that agency will do a good job delivering services in the future (Morgeson et al., 2011). The literature suggests that better performance of the government leads to satisfied citizens, which in turn has the potential to restore citizens' trust and confidence in government (Van de Walle & Bouckaert, 2003). Morgeson et al. (2011) also validate e-government's ability to transform public-sector service performance, democratic responsiveness and citizen trust and confidence in governments.

Later in the article, we examine the status of e-government implementation in the GCC in general and Bahrain specifically through a review of studies that have covered this region. Several statistics and international indicators are presented that confirm the advanced status of e-government systems in the GCC and Bahrain.

To summarise the literature review, there are signs of a decline in the trust and confidence of citizens in governments and little in-depth research has been undertaken in this area, which is not well understood in the literature (Hong, 2013; Myeong et al., 2014; Teo et al., 2008; Tolbert & Mossberger, 2006; Morgeson et al., 2011; Bannister & Connolly, 2011; Welch et al., 2005; West, 2004). One of the aims of this study is to shed more light on the concept of trust and confidence in government and associated factors, about which there is a lack of clarity in the literature (Tolbert & Mossberger, 2006; Morgeson et al., 2011). Broadly, the concept of trust and confidence seems to be influenced by transformation of government, although factors that influence that transformation are not discussed comprehensively with appropriate theories in the literature (Bannister & Connolly, 2011; West, 2004).

This research sets out the improvements to knowledge that can be gained by understanding how trust and confidence decline in government contexts and which factors contribute to this. The outcome of this research has the potential to be useful to the governments and citizens of any country in general, and developing countries such as Bahrain specifically.

### **3. Supporting Theories**

The implementation of e-government and ICTs in general to transform the public sector is seen as a major influencer of socio-economic development in countries (O'Donnell & Turner, 2013; Zhao, Wallis, & Singh, 2015; Ashaye & Irani, 2014; Shafi & Weerakkody, 2009; Abu-Shanab & Al-Azzam, 2012). Moreover, a number of previously developed models and frameworks (Palvia, Baqir, & Nemati, 2017; Meso, Musa, Straub, & Mbarika, 2009; O'Donnell & Turner, 2013; Estevez & Janowski, 2013) suggest that ICT based transformation of government yields to socio-economic development of a country. The United Nations annual benchmarking studies of e-government in countries identify how online systems in government contribute to multiple facets of society such as inclusion, digital literacy and better informed citizens. Both concepts e-government and technology are included in proposed conceptual model in this research and their relationships with transformation of government and other factors are investigated. The literature review presented in the previous section encapsulates these and provides a summary of all components of this research, whereas the supporting theories for these components and the relationships between them are presented in this section. Therefore, the literature review and the associated theories drawn from related e-government concepts are the basis for the proposed conceptual model for this research and for the development of research hypotheses and instrument. Table 1 summarizes the theoretical background presented in the sections below.

#### **3.1 *Dominant Theory***

The main issue to be examined in this paper is the decline in citizens' trust and confidence in government. As such, this research continues the work of Morgeson et al. (2011) to investigate further the concept of trust and confidence in government through transformed government. The conceptual model proposed by Morgeson et al. (2011) was based on theories related to marketing discipline that focused on the formation of consumer attitudes (Bearden & Teal 1983; Cadotte, Woodruff, & Jenkins, 1987; Churchill & Surprenant 1982; Fornell, Johnson, Anderson, Cha, & Bryant, 1996; Oliver, 1980; Parasuraman, Berry, & Zeithaml 1991). Several studies (Donnelly, Wisniewski, Dalrymple, & Curry, 1995; Fornell et al., 1996; Fornell, Mithas, & Morgeson III, 2009a, 2009b; James, 2009; Poister & Henry 1994; Van Ryzin, Muzzio, Immerwahr, Gulick & Martinez, 2004b) have adapted, applied and used these theories and models in government, specifically exploring citizens' attitude toward services provided by government.

In the context of this research, Morgeson et al. (2011) work on exit-voice theory is used as the core influencing model. In short, this theory states that when customers are satisfied, there are fewer complaints and loyalty is increased. Otherwise customers have the option to exit (moving to a competitor) or voice their complaints. The model developed by Morgeson et al. (2011) has been tested and validated, and was used to understand citizens' trust and confidence in government through the adoption of e-government and managing citizens' expectations. It can therefore be used in this research to build a model to investigate the influence of the transformation of government on citizens' trust and confidence in government mediated by citizens' perceived performance of government and citizens' satisfaction. The exit-voice theory therefore supports the proposed conceptual model.

### **3.2 *The Relationships between (E-government → Transformation of Government) (Technology → Transformation of Government)***

Since e-government and technology or ICT are related to each other, four key theories are applicable to both relationships: EGOV → TRANSF and TECH → TRANSF.

The first is public administration theory. E-government initiatives result in transforming government and governance to e-government and e-governance, redefining key parts of public administration as operating core implementation of public policy and democratic supervision. Here, the traditional processes are transformed into information-based processes (Zouridis & Thaens, 2003). As for technology and transformation of government, e-government initiatives require different government entities to use supported ICT technologies, including hardware and software. Additionally, ICT can be used by government entities for other purposes, such as to develop new policies, supporting citizens and supporting strategic processes of such entities. These ICT initiatives will contribute to transforming government to be an ICT-enabled transformed government (Zouridis & Thaens, 2003).

The second theory is structuration theory, which backs up the introduction and use of technologies by different government entities for the purposes of interacting between government and citizens (Orlikowski, 1992; Orlikowski, Yates, Okamura, & Fujimoto, 1995; Orlikowski, 2000). This includes the technologies needed for e-government initiatives as well as for their own purposes; both would result in altering existing structures and thus institutional transformation (Meijer, Koops, Pieterse, Overman, & Tije, 2012).

The third relates to user-adoption theories. As discussed above, the introduction of technologies by government entities for e-government and other purposes transforms the way government manages its functions as well as the way it delivers its services to citizens. Therefore, it can be considered as institutional transformation. However, in order to have a successful ICT-enabled transformation of government, adoption and take up of government services by citizens should be clear and visible. User adoption theories, for example the Technology Acceptance Model (TAM) and Diffusion of Innovation (DOI) (Gilbert & Balestrini, 2004), would help study the take up of online government services by citizens.

The last is institutional theory, which is used by several researchers to conceptualise ICT-enabled transformation of government (Omar, Weerakkody, & Sivarajah, 2017; Kim, Kim, & Lee, 2009; Bekkers & Meijer, 2012; Luna-Reyes & Gil-García, 2012; Pina, Torres, & Royo, 2009). In these studies, ICT, including e-government, is considered as a proper institution, taking into account its relationships with the surrounding environment, organisational aspects, stakeholders, communications with other government agencies, interaction with citizens and socio-economics impact on the country in general and the government system particularly. In this context, institutional theory with its three forces (coercive, mimetic and normative) is relevant.

In detail, the applicability of institutional theory is drawn from a number of perspectives. The most important relates to the implementation of ICT, including e-government and issues surrounding its implementation (Kim et al., 2009; Bekkers & Meijer, 2012; Luna-Reyes & Gil-García, 2012; Pina et al., 2009). In this context,

institutional theory is often used alongside other theories, such as the Diffusion of Innovations Theory (Pina et al., 2009). Furthermore, the Technology enactment framework of the institutional theory has been used along with dynamic simulation, particularly system dynamics (Luna-Reyes & Gil-García, 2012).

### ***3.3 The Relationships between (Transparency → Transformation of Government) (Accountability → Transformation of Government)***

Accountability is the natural result of adopting Transparency; both come with transformation (Kim et al., 2009; Bannister & Connolly, 2011; Amaliah, Iaafar, & Atan, 2015). Here, three theories support the relationships between TRANSPY → TRANSF and ACCOUNT → TRANSF.

The first is public administration theory. In a transformed government, adoption of transparency supported by ICT results in government related information being made accessible by all stakeholders including general citizens. This by itself changes the way public administration works, acts and interacts, and also changes how citizens are given the freedom to appeal and escalate if needed.

The second is institutional theory. ICT-enabled, transformed government results in enhanced government transparency and accountability, which in turn affects the organisational aspect and institutional arrangements as well as the way government institutions work and interact with their stakeholders including citizens.

The third is the agent-principle theory. Here, Kim et al. (2009) use ‘agent’ to refer to government and ‘principle’ to citizens. This is the kind of the relationship in which the principle (citizens) monitors and the agent (government) performs and reports on the progress supported by evidence. The same principle applies to transformed government which adopts transparency, for example, by making the information necessary to all services, processes and procedures available to citizens. Additionally, the agent (government) can share different reports, such as performance reports, KPIs achieved and cases dealt with. Accountability of government, as stated above, comes into the picture by default, when such details are made available to citizens.

### ***3.4 The Relationship between (Citizens’ Expectation → Transformation of Government)***

Stakeholder theory supports the relationship between EXPEC→TRANSF. Stakeholder theory states, in short, that if an organisation manages its relationships with its stakeholders effectively, it will perform well. Otherwise, the performance will be lower (Freeman, 2010). The relationship here refers to the interaction with stakeholders and the involvement of stakeholders in implementing and managing stakeholders’ expectations. In the context of this paper, citizens’ expectations of a truly transformed government should be managed and this could be performed by introducing proper communication channels as well as by introducing a consultation process on all aspects of government functions, activities and services (Scott, Golden, & Hughes, 2004).



### 3.5 *The Relationship between (Transformation of Government → Performance of the Government)*

Public administration theory supports the relationship between TRANSF → PERFO because the traditional government/public administration will transform to an ICT-enabled government/public administration that integrates transparency and accountability into its work, functions and activities, as well as manages citizens' expectations. This transformation will result in improved government services as well as enhanced efficiency and effectiveness of the transformed government. The government administration becomes modern. Zouridis and Thaens (2003) point out that the fundamental character of public administration and the basic structure of its institutions are impacted by the transformed government.

### 3.6 *The Relationships between (Performance of the Government → Citizens' Satisfaction) (Citizens' Satisfaction → Citizens' Trust and Confidence in Government)*

The micro-performance theory supports the relationships between PERFO → SATISF and SATISF → TRUST & CONFIDENCE. It is very simple and straightforward and considers trust in government as the ultimate outcome. Better performance of government results in more satisfied citizens which in turn enhances trust in government (Van de Walle & Bouckaert, 2003). A number of prior studies (Van de Walle & Bouckaert, 2003; Kampen, Van De Walle, & Bouckaert, 2006; Kampen, Maddens, Vermunt, & Salminen, 2003) used the micro-performance theory to understand the relationship between performance of government and trust in government mediated by citizens' satisfaction. As such, the theory and these studies can be considered as useful guides in investigating the relationships between transformation of government, citizens' satisfaction and citizens' trust and confidence in government. In the context of this paper, the transformed government has the potential to increase the number of satisfied citizens, which in turn enhances citizens' trust and confidence in government.

Although the micro-performance theory supports to some extent the proposed conceptual model, it has not been used in the e-government literature nor in the transformation of government literature, if one can call it such. In contrast, exit-voice theory has been tested, validated and used in the e-government literature and as a consequence, is considered in this research as the dominant theory that supports the proposed conceptual model.

Table 1. Research Instruments and Evidence from the Literature

Construct	Relationship Affected	Supporting authors for the Relationship	Supporting Theories
EGOV	EGOV → TRANSF	Bannister and Connolly, (2011); Bellamy and Taylor (1998); Kraemer and King (2006); Coursey and Norris (2008); Baum and Di Maio (2000); Layne and Lee (2001); Bonham et al. (2001); Andersen and Henriksen (2006).	Public administration theory (Zouridis & Thaens, 2003); Institutional theory (Kim et al., 2009; Bekkers & Meijer, 2012; Luna-Reyes & Gil-García, 2012; Pina et al., 2009); Structuration Theory (Orlikowski, 1992; Orlikowski et al., 1995; Orlikowski, 2000; Meijer et al., 2012); User adoption theories (example Technology Acceptance Model, TAM; Diffusion of Innovation, DOI) (see Gilbert & Balestrini, 2004).

TECH	TECH → TRANSF	Bannister and Connolly, (2011); Weerakkody et al. (2009); Bonham et al. (2001); Kim et al. (2009); Bingham (2010); Seifert and Petersen, Hazlett and Hill (2003).	Public administration theory (Zouridis & Thaens, 2003); Institutional theory (Kim et al., 2009; Bekkers & Meijer, 2012; Luna-Reyes & Gil-García, 2012; Pina et al., 2009); Structuration Theory (Orlikowski, 1992; Orlikowski et al., 1995; Orlikowski, 2000; Meijer et al., 2012); User adoption theories (example Technology Acceptance Model, TAM; Diffusion of Innovation, DOI) (see Gilbert & Balestrini, 2004).
TRANSPY	TRANSPY → TRANSF	Fountain (2001); Brown (1999); Northrup and Thorson (2003).	Public administration theory (Zouridis & Thaens, 2003); Agent-principal theory (Kim et al., 2009); Institutional theory (Kim et al., 2009).
ACOUNT	ACOUNT → TRANSF	Bannister and Connolly, (2011); Norquist (2007); Kim et al. (2009); Kauvar, 1998; Demchak, Friis, and La Porte. (2000); Bingham (2010).	Public administration theory (Zouridis and Thaens, 2003); Agent-principal theory (Kim et al., 2009); Institutional theory (Kim et al., 2009).
EXPEC	EXPEC → TRANSF	Welch et al. (2005); Seifert and Petersen, (2002); Dalton (2005); Graham and Avery (2013).	Stakeholder theory (Tennert & Schroeder, 1999; Scholl, 2001; Pardo & Scholl, 2002; Chan et al., 2003).
TRANSF	TRANSF → PERFO	Kim et al. (2009); Florini (2000); Chatfield (2009); Fang (2002).	Public Administration Theory (Zouridis & Thaens, 2003).
PERFO	PERFO → SATISF	Van de Walle and Bouckaert (2003); Bouckaert et al. 2005; Van de Walle, Van Roosbroek, and Bouckaert (2008); Kampen et al. (2006); Heintzman and Marson (2005); Tolbert and Mossberger (2006); Osman, I. H., Anouze, A., Irani, Z., Lee, H., Balci, A., Medeni, T., and Weerakkody, V. (2011).	Micro-Performance Theory (Van de Walle & Bouckaert, 2003; Kampen et al., 2003; Kampen, et al., 2006).
SATISF	SATISF → TRUST & CONFIDENCE	Bannister and Connolly, (2011); Van de Walle and Bouckaert (2003); Bouckaert, Van de Walle and Kampen, (2005); Van de Walle, Van Roosbroek and Bouckaert (2008); Welch et al. (2005); Kampen, Van De Walle and Bouckaert, (2006); Heintzman and Marson (2005); Tolbert and Mossberger (2006); Osman et al. (2011).	Micro-Performance Theory (Van de Walle & Bouckaert, 2003; Kampen et al., 2003; Kampen et al., 2006).
TRUST & CONFIDEN CE	---	---	Micro-Performance Theory (Van de Walle & Bouckaert, 2003); Exit-Voice Theory (Morgeson et al., 2011; Fornell et al., 1996).

## **4. The Conceptual Model and Hypotheses**

### **4.1 *The Conceptual Model***

A review of the literature shows that there is a lack of knowledge on how transformation of government can reverse the decline in citizens' trust and confidence in their governments. Eight factors have been identified as influencing citizens' trust and confidence. While researchers are still investigating the possible relationship between e-government and declining trust in government, models that can provide a solution to governments to stop the decline in trust in them are still at early stages of development. For instance, Morgeson et al. (2011) study investigated the relationship between the internet and trust in Washington (US) mediated by e-government and influenced by other factors. The authors could not establish a significant relationship with trust in government. Similar results were arrived at by another piece of research conducted by Teo et al. (2008) which investigated the relationship between trust in government and e-government on the one hand, and user satisfaction and intention to use e-government on the other, using trust in government as the independent variable rather than dependent.

When investigating the above arguments, it can be concluded that satisfaction and trust affect citizens' engagement with government. Satisfaction is influenced by performance and performance is affected by a number of factors, including technology used in government, the use of e-government as a tool and citizens' expectations of the government. When these three aspects are involved, the traditional government setup is not the same and change must be brought in, with transparency becoming another important factor needed in government. Therefore, e-government, technology and expectations need to be linked to transformation. However, transformation without transparency and accountability is unlikely to improve performance (Bannister & Connolly 2011). Therefore, transformation must be influenced by transparency and accountability (Kim et al., 2009; Bannister & Connolly, 2011). As such, it is proposed that e-government as a tool, technology adopted by government departments, citizens' expectation, and transparency and accountability applied by the government are considered as factors influencing transformation. Transformation here is considered as an independent variable that is expected to increase citizens' engagement with their governments, which is the dependent variable. Government take-up is represented in terms of trust and confidence in government. However, the relationship between independent and dependent variables has been shown to be affected by mediating variables (Morgeson et al., 2011). Two such variables identified by previous researchers include government performance and satisfaction of citizens (West, 2004; Morgeson et al., 2011; Tolbert & Mossberger, 2006; Welch et al., 2005; Norquist, 2007; Welch & Hinnant's, 2002; Kim et al., 2009). The supporting theories for the constructs and the relationships between them are explained in detail in Table 1.

Based on the above, this research argues that our lack of understanding how the citizens' engagement with government is influenced by the transformation of government is an important gap in the literature, which affects both citizens and governments. If this relationship were better understood, this knowledge could be used to enhance citizens' trust and confidence in government and could contribute to arresting the decline of citizens' engagement with government.

In this context, this research attempts to expand the work of Morgeson et al. (2011) to investigate further the concept of trust in government through transformed government. The proposed conceptual model for evaluating the influence of transformation of government in Bahrain on citizens' trust and confidence is outlined in figure 1:

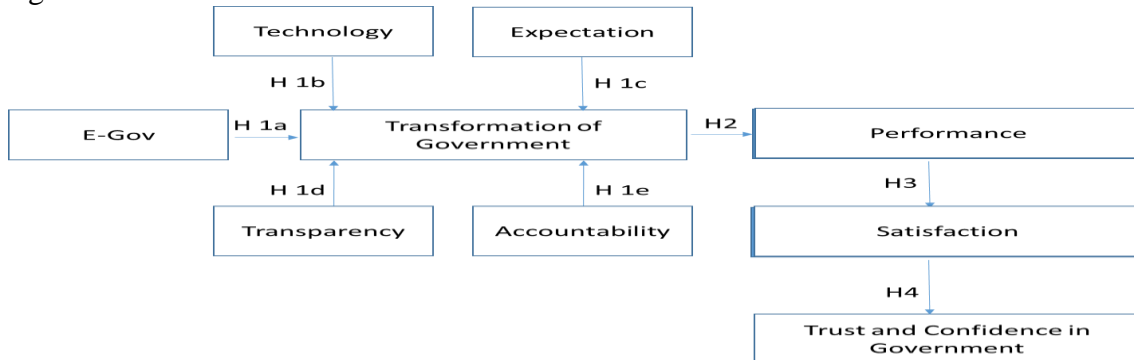


Figure 1 - A Conceptual Model for evaluating the influence of transformation of government on citizens' trust and confidence

The literature review shows that there has been a decline in citizens' trust and confidence in their governments over the last few decades. This research adopts a citizen centric perspective, which means that this research is about citizens' perception of all constructs and hypotheses of the conceptual model, for instance, citizens' perception of how well the government performs; citizens' perception of how technology is being implemented in government departments; citizens' perception of the extent to which transparency and accountability are being implemented and practiced by government and so on for the remaining constructs. The same citizen centric perspective applies to the suggested hypotheses.

## 4.2 The Hypotheses

In this research, two types of hypotheses are identified. The first relates to the influence of e-government, technology, expectation, transparency and accountability on the transformation of government. The second relates to the role of mediators, represented by the performance of government, and citizens' satisfaction with the relationship between transformation of government and citizens' trust and confidence in government.

Based on the arguments presented earlier and the conceptual model presented, the following hypotheses are proposed, which takes citizens' perceptions of every defined construct within the conceptual model into account:

- H1a: E-government positively influences transformation of government,
- H1b: Technology positively influences transformation of government,
- H1c: Expectation positively influences transformation of government,
- H1d: Transparency positively influences transformation of government,
- H1e: Accountability positively influences transformation of government,
- H2: Transformation of Government positively influences performance of government,
- H3: Performance of Government positively influences citizens' satisfaction in government,
- H4: Satisfaction positively influences the engagement of citizens with the government.

## 5. Research Context: E-Government Led Transformation of Government in Bahrain

E-government initiatives in the Gulf Cooperation Countries (GCC), developing countries, have achieved much since they started over a decade ago. Government services are now available online continuously, through different means, including e-government portals, mobile portals, e-kiosks, e-services centres and national contact centres. Furthermore, quality of services has been enhanced, improving human resources efficiency and reducing costs in government departments.

A good number of researchers have investigated e-government in GCC countries including Bahrain from a range of perspectives. Most of these studies address factors influencing the adoption and diffusion of e-government services (Salmi & Hasnan, 2016; Weerakkody et al., 2013; Al-Shafi & Weerakkody, 2010). For instance, trust was identified as a key factor in the take-up of e-government services (Al-Shafi & Weerakkody, 2010; Osman et al., 2011; Al-Khouri, 2012). Additionally, some researchers determined that cultural and social influences are important factors to be considered in the formula (Khalil, 2011; Carter & Weerakkody, 2008; Shafi & Weerakkody, 2009; Albusaidy & Weerakkody, 2008; AlSobhi, Weerakkody, & Kamal, 2010). Rodrigues, Sarabdeen, and Balasubramanian (2016) suggest that confidentiality, trust and attitudes toward using technology are major factors for e-government adoption in the UAE. For Saudi Arabia, confidentiality, privacy and security were identified as important factors to be considered by the government for successful e-government services in the country (Yamin & Mattar; 2016). In addition to the factors identified in Saudi Arabia, responsiveness, efficiency and reliability were major factors in determining the quality of e-government (Sharma, Govindaluri, & Gattoufi, 2015). As can be seen, the majority of the literature focuses on factors that influence adoption of e-government services. Moreover, in the GCC countries no studies were conducted that investigated trust as a dependent factor or the impact of transformation of government on citizens' trust and confidence in government.

The noticeable efforts in e-government made by GCC countries were recognised by the international community and specifically the e-Government Development Index (EGDI) of the United Nations, which consists of three sub-indicators: Global Government Index, Online Service Index and E-Participation Index. The table below shows the development of the GCC countries globally in the EGDI (United Nations E-Government Survey, 2016).

Table 2. GCC Ranking Globally – UN EGDI

	<b>e-Government Development Index (EGDI) Ranking</b>			
	2005	2012	2014	2016
<b>Bahrain</b>	53	36	18	24
<b>KSA</b>	80	41	36	44
<b>Qatar</b>	62	48	44	48
<b>UAE</b>	42	28	32	29
<b>Oman</b>	112	64	48	66
<b>Kuwait</b>	75	63	49	40

In the context of this paper, the government of the Kingdom of Bahrain, a developing country, is committed to transforming government through ICT and this is now evidenced by the establishment of the E-Government Authority in 2007 (now called the E-Government and Information Authority following merging of the E-Government

Authority and the Central Informatics Organization). Bahrain is a leader in e-government efforts whether at the GCC, Arab, Asian or global level and this is confirmed by the United Nations in its “*United Nations E-Government Survey*” issued in 2010, 2012, 2014 and 2016 respectively. In addition, e-government initiatives in Bahrain received over 30 international awards. Bahrain was the only country in the Arab region classified as a “very high performing country in EGDI”, amongst the most advanced countries in the world (United Nations e-government Survey, 2014). In United Nations’ recent report, the UAE has joined Bahrain in this category (United Nations e-government Survey, 2016).

E-government initiatives in Bahrain have resulted in a transformed government, improved interaction and engagement with government, better quality of services, cost savings, socio-economic benefits and satisfied citizens. In summary, over 300 e-government services are provided to citizens through different means. In 2016, the e-government portal received a total of 782,221 visits; 468,892 people used its services; 59,658 transactions were made and BD 3, 355,021 was collected. Mobile services were used by 754,201 people; 4,379 transactions were made and BD 231,306 was collected. Kiosk devices were used by 4,761 people, 744 transactions were made and BD 6,871 was collected (iGA, June 2016). These statistics show that e-government in Bahrain has reached an advanced stage and helps facilitate government transformation.

However, between the years 2014 and 2016, Bahrain’s ranking in the EDGI Index and e-participation sub-index decreased by 6 and 18 levels respectively (United Nations e-government Survey, 2014; 2016). Furthermore, e-participation was identified as a key challenge in both developed and developing countries (United Nations e-government Survey, 2014; 2016). As shown above, trust was identified as a key factor in the take-up of e-government services (Al-Shafi & Weerakkody, 2010; Osman et al., 2011; Al-Khouri, 2012) and accordingly the decline in Bahrain’s ranking in both the EGDI Index and e-participation sub-index may be related to citizen’s trust and confidence in government (Al-Shafi & Weerakkody, 2008; AlSobhi et al., 2010; Mahmood & Weerakkody, 2014). The International Labour Organization (ILO) highlighted a rapid decline in citizens’ trust in its reports, which is alarming the GCC region in general and Bahrain specifically (World Employment and Social Outlook Trends, 2015; 2016; 2017).

Given the above context, in line with the aim and objectives of this research, Bahrain is a good candidate for investigating how citizens’ trust and confidence in their government is influenced by the transformation of government, as well as identifying major factors that contribute to the successful transformation of government.

## **6. Methodology and Data Analysis**

A Systematic Literature Review, including examination of the GCC and Bahrain, resulted in the development of a conceptual model together with hypotheses for this research. The conceptual model was tested (a) to ensure that it is valid and reliable, and (b) to test the hypotheses made (Wood & Welch, 2010). Since the target for this research is ordinary citizens of the Kingdom of Bahrain, a quantitative research method was used to test the conceptual model to ensure that it accurately represented the population, in line with methods adopted by others conducting similar research (e.g. Teo et al., 2008; Tolbert & Mossberger, 2006; Morgeson et al., 2011). Given that e-government in Bahrain is at an advanced stage and the majority of citizens use it to conduct their transactions with the government, an online survey and random sampling of ordinary citizens was used as a

sampling technique. This was done to capture a large number of people from different backgrounds. This sampling technique is in line with similar studies in the field (Nam & Sayogo, 2011; Weerakkody et al., 2013; Dashti, Benbasat, & Burton-Jones, 2009). Since the subject of this research relates to citizens' trust and confidence in government, which is politically sensitive at present in Bahrain, the online survey was developed based on a seven-point Likert scale type, to increase the number of choices and avoid, as far as possible, respondents selecting "neutral" choices.

### 6.1 Data Collection Methods

The survey questionnaire of this research is informed by the literature reviewed (See Table 3). The measurement items for each construct of the proposed model are presented in Appendix 1. The design of the questionnaire was checked by two academics and two experts-practitioners working in e-government. To evaluate the feasibility, predict the appropriate sample size, and improve the research design, a pilot survey that consisted of 55 questions was used before the full-scale launch of the survey. The pilot survey was posted on a web portal and a URL was sent out to ordinary citizens using social networking applications (i.e. WhatsApp and Facebook), SMS, LinkedIn and email. The pilot study was conducted during September 2015 and the analysis was completed early in October 2015.

Table 3. Research Constructs and Measuring Items

Construct	Measuring Items	Adopted From
E-Government (EGOV)	Q1-Q10	Abhichandani, Horan, and Rayalu (2005)
Transparency (TRANSPY)	Q11-Q15	Park and Blenkinsopp (2011)
Accountability (ACOUNT)	Q16-Q20	Said, Iaafar, and Atan (2015)
Technology (TECH)	Q21-Q23	Hameed and Al-Shawabkah (2013)
Expectation (EXPEC)	Q24-Q36	Parasuraman et al. (1988)
Transformation (TRANSF)	Q37-Q41	Patterson et al. (2005)
Performance (PERFO)	Q42-Q45	Zhang (2013)
Satisfaction (SATISF)	Q46-Q50	Zhang (2013)
TRUST & CONFIDENCE (TRU_COF)	Q51-Q55	McKnight, Choudhury, and Kacmar (2002); Morgeson et al. (2011)

The results of the pilot study confirmed the appropriateness of the survey design for this study. Based upon the outcomes of the pilot study, the main survey that consisted of 51 questions as shown in Appendix 2 was conducted between October 2015 and November 2015.

Again the main survey was communicated to the public via social networking applications (i.e. WhatsApp and Facebook), SMS, LinkedIn and email and reached approximately 1000 people. The total number of responses was 513 which represents a response rate of approximately 51% which is considered as a good response rate in Information System research (Fowler, 2002). However, only 313 responses were completed properly and the rest were incomplete where only demographic details were answered and the rest of the survey was almost unanswered. As such, 200 responses were discarded. The 313 as a sampling size is considered as adequate as per Tabachnick and Fidell (2001); and Comrey and Lee (1992).

Table 4 illustrates the profile of the respondents, from which it is clear no significant gender and age bias is observed. However, a larger portion of the respondents is considered as highly educated as well as well paid.

Table 4. Profile of the Respondents

Gender	Freq (%)	Age	Freq (%)	Education	Freq (%)	Income	Freq (%)
Male	195 (62.3)	<18	3 (1.0)	Less than secondary school	0 (0)	Under US\$500	78 (24.9)
Female	118 (37.7)	18-30	142 (45.4)	Secondary school	11 (3.5)	US\$500/- to US\$1,000/-	22 (7)
		31-40	90 (28.8)	Diploma	22 (7.0)	US\$1,000/- to US\$1,500/-	21 (6.7)
		41-50	45 (14.4)	Bachelor's degree	184 (58.8)	US\$1,500/- to US\$2,000/-	22 (7)
		>50	33 (10.5)	Master's degree	96 (30.7)	More than US\$2,000/-	170 (54.4)
Total				313			

The retained Q7 was eliminated, as it did not pass again the validity testing using the SPSS, which means sampling size has no impact on the outcomes of the testing. Furthermore, the targeted audience may have not understood Q7 properly.

## 6.2 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) was performed to test the validity of the constructs that resulted in deducting Q8, Q9 and Q10 from the analysis, as they did not pass the validity test.

The CFA resulted in a good fit (Chi-Square (CMIN) = 1997.084; Degrees of Freedom (DF) = 991; CMIN/DF = 2.015; CFI = . 923; RMSEA = . 057). As shown in Table 5, the Composite Reliability (CR) of all the constructs are higher than 0.7 (Nunnally & Bernstein, 1994) suggesting an adequate level of reliability. In terms of Convergent Validity, the Average Variance Extracted (AVE) are all above 0.5 (Fornell & Larcker, 1981). Therefore, Table 5 suggests a good validity of the measurement model.

Table 5. Results of Confirmatory Factor Analysis

	CR	AVE	cSATISF	cEGOV	cTRANSPY	cACOUNT	cTECH	cEXPEC	cTRANSF	cPERFO	cTRU_COF
cSATISF	0.932	0.733	0.856								
cEGOV	0.897	0.594	0.756	0.771							
cTRANSPY	0.844	0.576	0.754	0.83	0.759						
cACOUNT	0.862	0.61	0.738	0.796	0.899	0.781					
cTECH	0.771	0.53	0.782	0.769	0.887	0.966	0.728				
cEXPEC	0.946	0.614	0.81	0.731	0.846	0.882	0.896	0.783			
cTRANSF	0.925	0.711	0.608	0.569	0.773	0.791	0.74	0.855	0.843		
cPERFO	0.899	0.691	0.948	0.783	0.791	0.775	0.796	0.821	0.656	0.831	
cTRU_COF	0.936	0.745	0.791	0.674	0.75	0.785	0.771	0.85	0.785	0.774	0.863

Table 6 below presents the correlation matrix, mean and standard deviation of the constructs in the proposed model.



Table 6. Mean, Std. Deviation and Correlation

	Mean	Std. Deviation	EGOV	TRANSPY	ACOUNT	TECH	EXPEC	TRANSF	PERFO
EGOV	37.0224	10.66008							
TRANSPY	15.2115	4.9846	.786**						
ACOUNT	15.609	5.07264	.744**	.761**					
TECH	12.8494	3.95403	.707**	.698**	.758**				
EXPEC	42.8109	13.61511	.731**	.748**	.794**	.748**			
TRANSF	17.5641	7.02849	.566**	.678**	.691**	.587**	.787**		
PERFO	16.6603	5.35652	.722**	.691**	.689**	.672**	.756**	.602**	
SATISF	21.6667	6.7338	.709**	.670**	.662**	.667**	.759**	.553**	.860**

### 6.3 Research Hypotheses Test Results

Following on from the Path Analysis Results, the eight Hypotheses developed for this research were supported as shown in Table 7 below.

Table 7. Path Analysis Results

#	Path	Standardized Coefficient (t) p	Results
H1a	EGOV→TRANSF	-0.140(-11.6666667)***	Supported
H1b	TECH→TRANSF	-0.694(-57.8333333)***	Supported
H1c	EXPEC→TRANSF	0.323(26.9166667)***	Supported
H1d	TRANSPY→TRANSF	0.154(12.8333333)***	Supported
H1e	ACOUNT→TRANSF	0.605(50.4166667)***	Supported
H2	TRANSF→PERFO	0.957(79.75)***	Supported
H3	PERFO→SATISF	0.996(19.92)***	Supported
H4	SATISF→TRU_COF	0.963(74.0769231)***	Supported

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

The empirical results showed that E-government has a significant negative effect on transformation ( $b = -0.140$ ,  $t = -11.6$ , \*\*\*), thus providing support for H1a. Technology also shows a significant negative effect on transformation ( $b = -0.694$ ,  $t = -57.8$ , \*\*\*) which support H1b. Expectations show a significant positive effect on transformation ( $b = 0.323$ ,  $t = 26.9$ , \*\*\*), so H1c is supported. Transparency also shows a significant positive effect on transformation ( $b = 0.154$ ,  $t = 12.8$ , \*\*\*), so H1d is supported. Impact of accountability on transformation is also significant and positive ( $b = 0.605$ ,  $t = 50.4$ , \*\*\*), so H1e is supported. Transformation shows a positive significant effect on performance ( $b = 0.957$ ,  $t = 79.75$ , \*\*\*), so H2 is supported. Performance has a significant positive effect on satisfaction ( $b = 0.996$ ,  $t = 19.92$ , \*\*\*), thus providing support for H3. Finally, satisfaction also shows a significant positive effect on trust and confidence ( $b = 0.963$ ,  $t = 74.07$ , \*\*\*) which support H4.

### 6.4 Mediation Effects

The main objective of this research is to investigate how transformation of government influences citizens' trust and confidence in government. Two mediators play an important role in this relationship, which are performance of the government and citizens' satisfaction. Our analysis of the results, illustrated in Appendix 3, show that the paths between (SATISF→TRU\_COF), (PERFO→TRU\_COF) and (TRANSF→TRU\_COF) are all significant. This suggests both performance and satisfaction mediate partially between transformation of government and trust and confidence in government.

Figures 2 to 5 below illustrates the direct and indirect effects of all paths in the proposed conceptual model. It is clear that all paths in the four figures are significant.

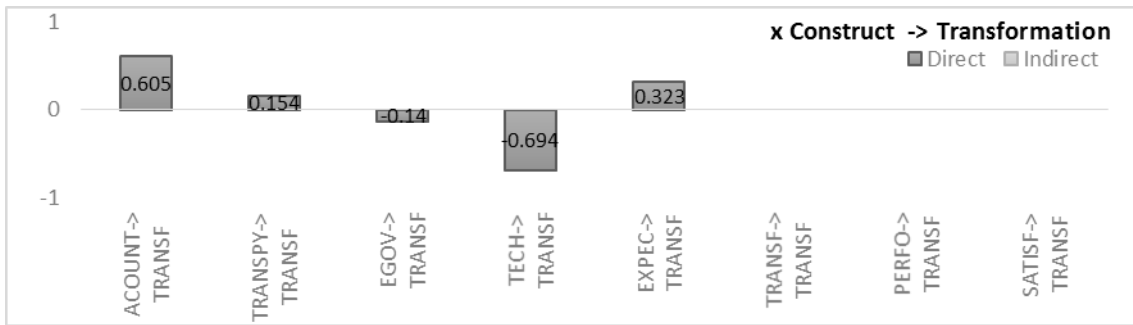


Figure 2 - Total Effects of the Direct and Indirect Paths on Transformation

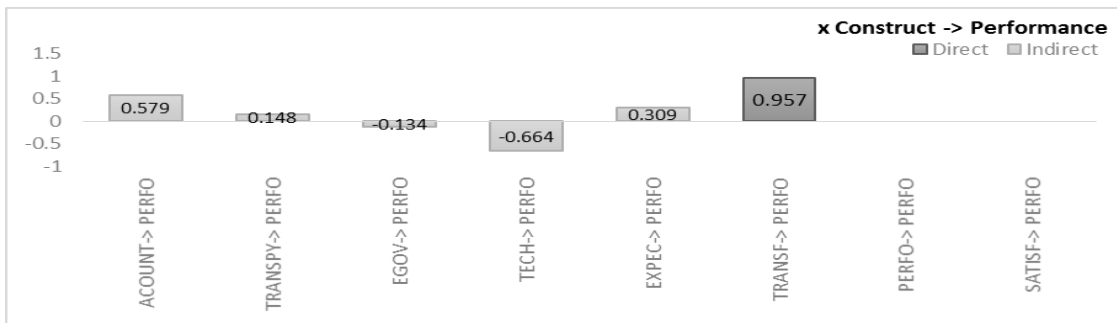


Figure 3 - Total Effects of the Direct and Indirect Paths on Performance

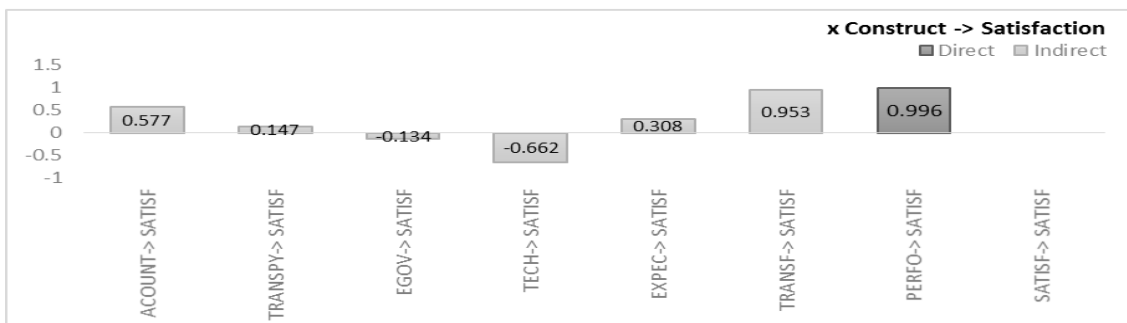


Figure 4 - Total Effects of the Direct and Indirect Paths on Satisfaction

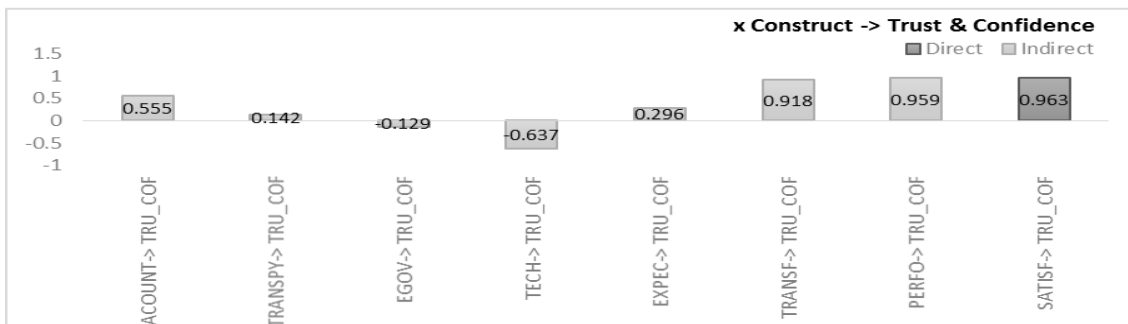


Figure 5 - Total Effects of the Direct and Indirect Paths on Trust and Confidence

## 7. Discussion

### 7.1 *Summary of the Results*

As stated in the previous sections, this research is about citizens' perception of all constructs and hypotheses of the conceptual model. The results of this research reveal that five factors influence the transformation of government in Bahrain, which are: (i) e-government, (ii) technology used by the government agencies, (iii) citizens' expectations, (iv) transparency of the government and (v) accountability of the government agencies to the citizens. This answers research question Q1. In detail, three factors positively influence transformation of government, which are: (i) citizens' expectations, (ii) transparency and (iii) accountability. Two factors negatively influence transformation of government, which are (i) e-government and (ii) technology. This answers research question Q2.

As for research question Q3, transformation of government positively influences citizens' trust and confidence in government mediated by government performance and citizens' satisfaction. All relationships between transformation of government and government performance, government performance and citizens' satisfaction and citizens' satisfaction and citizens' trust and confidence were found to have positive impacts. Moreover, both performance and satisfaction mediate partially between transformation of government and trust and confidence in government.

Of particular interest is the finding that e-government, technology, transparency, accountability and citizens' expectation were found to have indirect significant relationships with citizens' trust and confidence in government. The same applies between the five factors and government performance, as well as citizens' satisfaction.

All findings are supported by the literature, including the two negative relationships between e-government and transformation of government, as well as technology and transformation of government. Specifically, the literature showed that e-government was introduced as a solution to transform governments and reverse the decline in citizens' trust and confidence in their governments. However, these objectives were not achieved by the different e-government initiatives in the last 20 years for a number of reasons (Teo et al., 2008; Morgeson et al., 2011; Edwards, 2015; Bean, 2015; Bannister & Connolly, 2011; West, 2004). First, previous research on the influence of e-government on trust in governments reached conflicting conclusions. Second, technology in general and e-government in particular did not work alone, and not all relevant factors were considered in most cases of e-government implementation. Third, no real transformation of government was achieved because implementation focused only on facilitating the provision of government services through digital means such as websites, portals, mobile services and kiosks etc. (Waller & Weerakkody, 2016). It is clear in these cases that rather than focusing on governments' core functions, such as issuance of policies, legal and regulatory instruments, the focus was on government services through technical solutions and therefore no real transformation was achieved (Waller & Weerakkody, 2016; Zwahr et al., 2005; Bannister & Connolly, 2011).

## **7.2 Theoretical Contribution**

This study is the first of its type to investigate the influence of ‘transformation of government’ on citizens’ trust and confidence in government that enriches the information system literature generally and e-government literature in particular. Factors affecting transformation of government have not been sufficiently discussed until now. Consideration of all perspectives has resulted in confirmation that e-government alone cannot transform governments and enhance citizens’ trust and confidence in their governments. The mediating role of government performance and citizen satisfaction between transformation of government and citizens’ trust and confidence have been discussed and confirmed. The relevance of this research is in its contribution to the growing body of knowledge related to important concepts, including e-government; transformation of government; and citizen behaviour in terms of expectation, satisfaction, trust and confidence in government, accountability and transparency.

This study proposes a conceptual framework to investigate the relationship between transformation of government and citizens’ trust and confidence, which has not been covered by previous theoretical models and frameworks that mainly focused on the influence of trust in government and take-up of e-government systems (Colesca, 2009; Abu-Shanab & Al-Azzam, 2012; Bélanger & Carter, 2008; Navarrete, 2010; Carter & Bélanger, 2005; Teo et al., 2008) as well as the relationship between e-government and trust in governments (Tolbert & Mossberger, 2006; Morgeson et al., 2011; Pina et al., 2009; McNeal, Hale, & Dotterweich, 2008; Pina & Royo, 2009; Grimmelikhuijsen, 2009). Only one study (Welch et al., 2005) covered elements of transformation of government and trust in government, but this was from an e-government perspective and not from an e-government led ‘transformation of government’ perspective. The present research extends the currently applicable theories to the new linkages amongst constructs proposed in the conceptual model that was tested and verified in Bahrain, a developing country.

Based on the above, this study enriched the technical background relating to trust in government and shows how e-government led transformation of government affects citizens’ trust and confidence in their governments. The significance of the outcome of this research is the knowledge acquired in determining how trust and confidence decline and the factors which contribute to this by reviewing the current literature, building a conceptual model and testing it in Bahrain. The context of this research is Bahrain, which is a developing country, and such findings of this research are specifically relevant to developing countries.

## **8. Conclusion**

### **8.1 Practical Implications**

The outcome of this research has the potential to be useful to people living in Bahrain, businesses, government authorities, policy makers and researchers in Bahrain specifically and developing countries in the GCC region in general.

Policy makers in developing countries generally and Bahrain specifically should take the following into account: E-government initiatives alone will not result in a true and real transformed government and other important factors should therefore be considered. Among these, the instruments used to implement and deliver new policies

and the role of ICT in this context will play a key role in enabling transformation (Waller & Weerakkody, 2016). Governments should therefore take a balanced approach on how e-government is positioned to transform public institutions and the services they deliver to gain trust, improve citizen satisfaction with the government, enhance efficiency and effectiveness of government, improve governance, limit corruption, reduce costs through the integration of government departments and process improvements and deliver high quality services. Moreover, true transformation of government contributes to the socio-economic development of all sectors and maximizing their benefits to the country and citizens.

Digital enabled transformation of government is an important element of socio-economic development of any country. For instance, Zhao et al. (2015) in his study showed that there is a strong reciprocal relationship between digital enabled government and digital economy, which refers not only to economy but also to the entire society of a country. This socio-economic development is clear and visible when looking at innovative business models, how people are interacting and communicating, transformation of government policies and practices and economic growth (Zhao et al., 2015, Ashaye & Irani, 2014; Mossberger et al., 2008; Weill & Woerner, 2013; Brynjolfsson & McAfee, 2011). Ashaye and Irani (2014) argued that digital enabled transformed of government is seen as means to transforming what government does. A number of interesting socio-economic benefits of this transformation were pointed out by the same study (Ashaye & Irani, 2014) such as acting as a balance for political instability, improving the culture, enhancing revenue collection for government and issuance of simplified legal instruments and regulations.

Therefore, digital transformation of government contributes to the wider socio-economic development of a country, by fostering the national economy, providing citizens' welfare and benefiting all sectors of industry in general and ICT specifically. The ecosystem of efficiently utilizing ICT in achieving a real transformation of government include changing the way governments function and work, development of ICT skills for general citizens and government employees and encouraging businesses to use ICT.

The findings of this research are consistent with the aforementioned socio-economic benefits and should be taken into account by policy makers and strategists in government. Practically, governments should include transformation initiatives in their visions and its work plans should show how e-government could facilitate this. In a small developing country like Bahrain, the Council of Ministers should supervise and implement such initiatives while setting clear targets and performance measures to ensure successful transformation. This would result in direct and indirect socio-economic benefits to Bahrain: transparent and accountable government; a strengthened relationship between citizens and government; and efficient and effective utilization of financial and human resources in the country.

## **8.2 *Limitations and future research***

The cultural and social impacts on transforming government and trust in government are not covered in this research as they are large subjects and need to be studied separately. Both may play significant roles in this context and as such future research investigating the same along with the factors identified in this research may add significant value to

current literature (Bertot, Jaeger, & Grimes, 2010; Dalton, 2005; Van de Walle & Bouckaert, 2003; Bannister & Connolly, 2011). Since this research covers technology, other factors that have evolved and arisen may be investigated in future researches.

It should be noted that this research adopts a citizen-centric perspective on all constructs and hypotheses proposed. As such, the findings of this research are based on the data that were collected from citizens residing only in Bahrain, a developing country, and thus the same study can be conducted in other GCC countries collectively for comparative purposes.

### **8.3 *Concluding Comments***

This study confirms that in Bahrain, citizens' trust and confidence in the government is influenced by the transformation of government. Key factors affecting this transformation include: implementation of e-government; implementing innovative technologies in the government departments; managing citizens' expectations and improving transparency in all functions of government along with ensuring accountability. This transformation may result in improved government performance and more satisfied citizens and may ultimately restore citizens' trust in government. To further investigate this, a conceptual model was developed, with hypotheses. A pilot study was conducted to verify and validate the model, after which the main study was launched in Bahrain.

This research synthesised the literature related to citizens' trust and confidence in government and the influence of a digital-led transformation of government on this trust and confidence. Additionally, it provides several suggestions for policy makers to consider. As concluding remarks for developing countries, all related factors should be considered and linked when looking for a real digital-enabled transformation of government. The focus here should be the core function of governments, which is the issuance of policies, utilizing ICT and the ultimate goal should be to enhance citizens' trust in government.

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## Appendix 1 – Research Instruments (Final)

Construct	Measuring Items	
EGOV	Q1	People would learn to use the government departments' website very quickly.
	Q2	I found information on the government departments' website to be very useful.
	Q3	I found helpful features on the government departments' website for accomplishing my task.
	Q4	Through every step of navigation through the website, I found the government departments' website to consistently provide useful information.
	Q5	I found that the content in the government departments' website was organized appropriately.
	Q6	I found the design of the government departments' website visually pleasing
TRANSPY	Q7	The government departments' programs are implemented more transparently in the website.
	Q8	The government departments' decision making is transparently disclosed in the website.
	Q9	The citizen can clearly see the progress and situation of the decision making through the website.
	Q10	The government departments' website discloses sufficient and reliable information to the citizen on its policies
ACOUNT	Q11	The government departments recognise their responsibilities towards all communities.
	Q12	The government departments maintain detailed and up-to-date records.
	Q13	The government departments foster collaboration with other related agencies.
	Q14	The government departments ensure funds are used properly and in an authorized manner
TECH	Q15	The government departments use computer networks to connect all of its divisions.
	Q16	The government departments are keen on providing network security in order to secure the information.
	Q17	Data exchange is conducted with great ease among the government departments' divisions through the available means of communication.
EXPEC	Q18	The government departments show sincere interest in solving citizens' problems
	Q19	The government departments provide services at the time promised
	Q20	The government departments maintain error-free records
	Q21	The government departments inform citizens when services will be performed
	Q22	The government departments offer prompt services to citizens
	Q23	The government departments readily respond to citizens' request
	Q24	The government departments able to instill confidence in citizens
	Q25	The government departments ensure that citizens feel safe in their transactions
	Q26	The government departments ensure that employees have the knowledge to answer citizens' questions
	Q27	The government departments make sure that employees give personal attention to all
TRANSF	Q28	The government departments make sure that employees understand citizens' needs
	Q29	In government departments new ideas are readily accepted.
	Q30	In government departments management is quick to spot the need to do things differently.
	Q31	In government departments response is quick when changes need to be made.
	Q32	In government departments there is flexibility; they can quickly change procedures to meet new conditions and solve problems as they arise
	Q33	In government departments assistance in developing new ideas is readily available.
PERFO	Q34	the performance of the e-government services related to finding information is excellent
	Q35	the performance of the e-government services related to completing transactions is efficient
	Q36	the performance related to public participating electronically is noticeable and visible
	Q37	the overall performance of e-government services is effective and efficient
SATISF	Q38	I was satisfied with my experience when using e-government services while looking for information I needed
	Q39	I was satisfied with the experience I had while completing my e-government services transactions
	Q40	I was satisfied with the extent of my participating as a citizen electronically
	Q41	I was satisfied with the extent of e-government services provided through multiple channels (e.g. websites; kiosks and mobile phones)
	Q42	overall I was satisfied with the services provided electronically
TRU& COF	Q43	I feel that government acts in citizen's best interest
	Q44	I feel fine interacting with the government since government generally fulfills its duties efficiently
	Q45	I am comfortable relying on the government to meet their obligations
	Q46	I always feel confident that I can rely on government to do their part when I interact with them.
	Q47	I feel confident that the government department will do a good job providing the services that I used in the future

## Appendix 2 – Research Instruments (Main Survey)

Construct	Measuring Items	
EGOV	Q1	People would learn to use the government departments' website very quickly.
	Q2	I found information on the government departments' website to be very useful.
	Q3	I found helpful features on the government departments' website for accomplishing my task.
	Q4	Through every step of navigation through the website, I found the government departments' website to consistently provide useful information.
	Q5	I found that the content in the government departments' website was organized appropriately.
	Q6	I found the design of the government departments' website visually pleasing
	Q7	I found that various within the government department were properly not linked together
	Q8	I was able to save the transaction details for future reference.
	Q9	I was able to choose the manner in which I am sent reminders/notifications about my transaction.
	Q10	I was able to request for accessing information the way I wanted to (i.e. on mobile devices or electronic mail) on the days I wanted to.
TRANSPY	Q11	The government departments' programs are implemented more transparently in the website.
	Q12	The government departments' decision making is transparently disclosed in the website.
	Q13	The citizen can clearly see the progress and situation of the decision making through the website.
	Q14	The government departments' website discloses sufficient and reliable information to the citizen on its policies
ACOUNT	Q15	The government departments recognise their responsibilities towards all communities.
	Q16	The government departments maintain detailed and up-to-date records.
	Q17	The government departments foster collaboration with other related agencies.
	Q18	The government departments ensure funds are used properly and in an authorized manner
TECH	Q19	The government departments use computer networks to connect all of its divisions.
	Q20	The government departments are keen on providing network security in order to secure the information.
	Q21	Data exchange is conducted with great ease among the government departments' divisions through the available means of communication.
EXPEC	Q22	The government departments show sincere interest in solving citizens' problems
	Q23	The government departments provide services at the time promised
	Q24	The government departments maintain error-free records
	Q25	The government departments inform citizens when services will be performed
	Q26	The government departments offer prompt services to citizens
	Q27	The government departments readily respond to citizens' request
	Q28	The government departments able to instill confidence in citizens
	Q29	The government departments ensure that citizens feel safe in their transactions
	Q30	The government departments ensure that employees have the knowledge to answer citizens' questions
	Q31	The government departments make sure that employees give personal attention to all
	Q32	The government departments make sure that employees understand citizens' needs
	TRANSF	Q33
Q34		In government departments management is quick to spot the need to do things differently.
Q35		In government departments response is quick when changes need to be made.
Q36		In government departments there is flexibility; they can quickly change procedures to meet new conditions and solve problems as they arise
Q37		In government departments assistance in developing new ideas is readily available.
PERFO	Q38	the performance of the e-government services related to finding information is excellent
	Q39	the performance of the e-government services related to completing transactions is efficient
	Q40	the performance related to public participating electronically is noticeable and visible
	Q41	the overall performance of e-government services is effective and efficient
SATISF	Q42	I was satisfied with my experience when using e-government services while looking for information I needed
	Q43	I was satisfied with the experience I had while completing my e-government services transactions
	Q44	I was satisfied with the extent of my participating as a citizen electronically
	Q45	I was satisfied with the extent of e-government services provided through multiple channels
	Q46	overall I was satisfied with the services provided electronically
TRU& COF	Q47	I feel that government acts in citizen's best interest
	Q48	I feel fine interacting with the government since government generally fulfills its duties efficiently
	Q49	I am comfortable relying on the government to meet their obligations
	Q50	I always feel confident that I can rely on government to do their part when I interact with them
	Q51	I feel confident that the government department will do a good job providing the services that I used in the future.

### Appendix 3 – Mediation Effects

#### Regression Weights

Relationship			Estimate	S.E.	C.R.	P
TRANSF	<---	EGOV	-.479	.012	-40.139	***
TRANSF	<---	TECH	-2.384	.012	-198.557	***
TRANSF	<---	EXPEC	1.086	.012	92.375	***
TRANSF	<---	TRANSPY	.531	.012	44.141	***
TRANSF	<---	ACOUNT	2.063	.012	173.011	***
PERFO	<---	TRANSF	.698	.012	58.218	***
SATISF	<---	PERFO	.983	.005	203.266	***
TRU_COF	<---	SATISF	1.035	.107	9.664	***
TRU_COF	<---	TRANSF	.569	.023	24.770	***
TRU_COF	<---	PERFO	-.593	.110	-5.391	***