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Paper:

Service Delivery through Mobile-Government (mGov): Driving Factors and Cultural Impacts

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Abstract
The mobile-Government (mGov) service system is conducted through an open network, and it is virtual. This service mode and pattern change inevitably necessitates a behavioral change in citizen attitudes and intentions. Nevertheless, this new pattern of service delivery through mGov has hardly been systematically investigated by any researchers. The objective of this current research is twofold. First, we attempt to reveal the sources of beliefs for developing intention toward the mGov (ITM) system. Then, as the second objective, we investigate cultural influence as the reason for a difference in consumer attitudes and intentions toward mGov. In this regard, the empirical study was conducted in Bangladesh and the USA, which have potential differences in the cultural traits listed by Hofstede. From our statistical analysis, we have identified the sources of beliefs for both Bangladeshi and USA consumers. We observed clear differences in sources of beliefs and their influence on attitudes leading to intention, which demonstrates support for our second objective which was designed to verify the cultural impacts on belief-attitude relations. We understand that these different sources of beliefs influence cognitive, affective, and connative attitudes toward mGov in different ways.

Keywords: Mobile Innovation, Mobile-government (mGov), Belief, Cross-culture, Hofstede's cultural traits, Consumer behaviors, Attitude, Intention

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1. Introduction

On the verge of a path of public administration reformation, different governments have realized that overarching disturbances can not only limit the progression of government service transformation but also raise many complex social, technological, marketing, behavioral, economic, cultural, and organizational issues that could not be solved through existing Electronic-government (eGov) initiatives (Trimi and Sheng, 2008). A significant portion of the citizens are still not behaviorally, psychologically, technologically, and professionally ready and capable, as well as equipped, to deal with the technologically driven eGov system.

Governments of different countries – particularly those countries where telecommunication infrastructure for mobile phone is extensive, widely diffused among citizens, cheap and easily available, while wired Internet is difficult to make available among all citizens across the country – are actively searching to alleviate those hindrances of eGov through launching mobile-government (mGov). mGov makes a technology-driven transformational government service system even more mobile, dynamic, accessible, and available, and enhances citizen participation irrespective of their class. This is particularly significant for remote areas in many countries where there has been a major problem in expanding land telecommunications; it is also essential for those citizens who do not have the skill and knowledge to take advantage of the enormous benefits of the computer and Internet technology (Heeks, 2002; Krishna and Walsham, 2005). These citizens are not able to access public services through the Internet, because they simply are not equipped to use eGov or they do not find the system to be relevant to their present professional life (Global Dialogue, 2007). At the same time, in the era of mobility and globalization, and also for situations of disaster and urgency, the overwhelming value and necessity of real time information cannot be ignored (Zhou, 2013). Therefore, we conclude that different barriers to eGov have created an opening for the opportunities of mGov.

Mobile government service – mGov – is a subset of eGov that can expedite dynamic changes in government. In the past, citizens have for many years sought government services through brick and mortar outlets. Transformational government offered through eGov ensures revolutionary changes in the public administration service delivery system which encapsulate organizational reformation from the service provider side and behavioral attitudinal changes from the service receiver side. The mGov service system takes this service to another level as it is conducted through an open network and is virtual (Archer, 2007). Citizens can use it from anywhere and at any time, receiving instantaneous messages and responses from the public service system, and they have automatic connection with government organizations through the short messaging system (SMS). This service mode and pattern change inevitably necessitates changes in the behavioral, psychological, and social characteristics that make up citizen attitudes which lead to intention. As a result, the success of this new trend of transformational government initiated through mGov depends entirely on the attitudinal accommodation of citizens to the new phenomena of mGov (Misuraca, 2009; Naqvi and Al-Shihi, 2009; Trimi and Sheng, 2008). Thus, identifying and formulating the sources of beliefs of the development of an attitude leading to intention toward mGov is a vital concern for successful development and implementation of a well-structured mGov system, and it, consequently, was set as the first objective of this research.

Based on the technology-organization-environment framework presented by Tornatzky and Fleischer (1990), associated factors that influence developing attitudes and intentions toward mGov are the economic pattern and government rules and regulations. These partially resemble the social and attitudinal values of individuals and they are particularly significant for underprivileged and illiterate village peoples. Shedding light on the social network theory (Wasserman and Katherine, 1994), we get the sense that users of mGov, while showing a behavioral attitude leading to intention toward mGov, must comply socially and organizationally with the flexible speed of mGov.

The social exchange theory (Roloff, 1981) supports this view of predicting and formulating an attitudinal behavior leading to intention toward mGov from the technological, behavioral, and social perspectives. Since human behavior may be rational, consumers search for social, behavioral, and economic supports from the complex and restructured system of public administration while developing a positive attitude toward the system which can be controlled by different attitudinal beliefs.

Formulating and conceptualizing the paradigms of attitude leading to intention (Rau et al., 2010; Shen et al., 2011) toward mGov by cross-cultural consumers can lead to the mainstream of transformational government launched and expanded through mGov. However, the cross-cultural comparison has yet not been incorporated into the anatomical dissection of the mGov development structure (Park and Jun, 2003). "Only when contextual factors are included in the theory can such different market response[s] be explained validly and predicted accurately" (Donthu and Yoo, 1998). Espinoza (1999), as an influential author of a cross-cultural study, affirmed that cross-cultural research to determine consumer behavior is still not mature. Therefore, the attitude of consumers – which is conceptualized as positive or negative ideas, feelings, and perceptions about a new system like mGov – depends on individual beliefs, social characteristics, and national cultural traits (Crites et al., 1994). If we look at the cognitive learning theory (Ertmer and Newby, 1993; Gagne et al., 1993) and attitude development research (Crites et al., 1994), we realize that consumers collect information about a system, interpret it, and develop their mental congruence with that system depending on their psychological ability — an attitude which has behavioral, social, and cultural impacts. Addressing, evaluating, and streamlining consumer attitudes toward the revolutionary change of the public administration system initiated through mGov, is a potential issue for different governments in implementing future transformational government. Therefore, we want to identify how consumer intention toward the mGov system develops. The objective of this research is twofold. First, we attempt to reveal the antecedent beliefs of developing intention toward transformational government offered through mGov. Then, as the second objective, we investigated and identified cultural influence as the reason for the difference in consumer intention toward the mGov (ITM) system.

In the next section, this study integrates the theoretical aspect and a literature review to formulate and develop a theoretical paradigm of a conceptual model exploring attitudinal behavior toward the mGov service system which finally forms intention. The following section deals with the questionnaire preparation, sample selection, and data collection methodology. Then the study explains statistical analysis and specifications. The next section discusses results and theory development based on statistical findings that shed light on the prevailing theory. Finally, the study conclusions and future research guidelines are delineated.

2. Conceptual Framework and Hypothesis Development

Derived from cross-cultural studies on different attributes of human beings, Levinson and Malone's (1980) cross-cultural theory strongly argued the importance of interconnecting cultural parameters in deciding consumer behavior. The altitudinal behavior for a reformed public administration system offered through mGov is closely connected to consumer attachment to the system. Consumers only gradually become habituated to disclosing sensitive information in the open network and feeling comfortable in interacting with this virtual medium. According to the social penetration theory (Altman and Taylor, 1973), this personal disclosure and sharing of vulnerable information largely depends on user attitudinal belief about the system, which in turn is guided by cultural metaphor (Adiele, 2011). The theory of reasoned action (TRA) (Fishbein and Ajzen, 1975) and the theory of planned behavior (TPB) (Ajzen, 1991) are two popular behavioral theories which are used extensively to identify antecedent beliefs affecting the formulation of attitudes leading to a behavioral intention toward ICT. The technology adoption model (TAM) by Davis (1989) was structured in the light of TRA and TPB. The diffusion of innovation theory (DOI) (Rogers, 1995) has a close connection to the development of belief structure upheld by TRA and TPB. Since attitude has behavioral, social, and cultural components, modeling an attitude toward mGov has potential merit rooted in the theoretical aspects of TRA and TPB. These two behavioral theories argue that certain salient beliefs develop and influence the structure of attitude leading to intention toward that system (Pavlou and Chai, 2002).

Researchers of eGov extensively explored different beliefs based on TPB and TAM to conceptualize a theoretical model of intention through the development of attitude toward adoption of the system (Morgeson III et al., 2010; Dimitrova and Chen 2006; Welch et al., 2005). Thomas and Streib (2003) clearly demonstrated that citizens adopt the new transformational government system driven by ICT based on their technological, psychological, behavioral, and social beliefs. Agarwal and Prasad (1999) explored consumer attitudes toward new technology; however, in their theoretical framework they did not consider the application of mobile technology and changes in human perception. Aloudat and Michael (2011) addressed and investigated different issues related to user attitudes toward mGov. However, in this comprehensive paper, the authors are concentrating on tracking the organizational aspects of mGov, not general citizen behavioral changes based on their attitudinal beliefs. Yang et al. (2003) explained consumer attitudes for service requirements from a virtual medium in a comprehensive manner, although consumer perceptual changes, and exposure to and attention to mobile technology are not considered in service requirements. While determining consumer attitudinal changes toward Internet-based technology, Rule (2007) and Choudrie & Papazafeiropoulou (2007) narrowly focused on the cognitive-based technological aspects. Liu and Li (2009) explored consumer intention toward mobile technology, but they covered only the utilitarian aspect (cognitive attitude). Unlike other studies, researchers such as Cockrill et al. (2011) and Leek and Christodoulides (2009) were more inclined to examine the affective attitude toward the short messaging service (SMS) of the mobile phone; however, they did not consider the comprehensive pattern of mobile technology and behavioral trend of consumers. The study conducted by Moynihan et al. (2010) addressed the overall behavioral aspects of consumers, but the study was narrowly focused only on the SMS of mobile phone-based service. Considering the previously mentioned limitations of the studies exploring attitudes leading to intention

toward technological adoption, a comprehensive theoretical framework from integrative perspectives focusing on affective emotional and behavioral issues is imperative.

Pavlou and Chai (2002) defined the attitude based on TPB as, "the overall evaluation of the desirability of a potential transaction with a specific Web retailer." Attitude is the general consumers evaluations and attitudes, i.e., the perception and evaluation of consumers about some product or service, and attitudes are formed by three components. In other words, three different behavioral, psychological, and social functions synergistically or separately contribute to build up the attitude toward any products or services (Ostrom, 1969). This attitude finally leads to behavioral intention according to TPB. These three components are: 1) Cognitive Function – It guides our rational thinking to form our evaluation about any product or service. This cognitive function is rooted in the overall beliefs about the product or service. 2) Affective Function – Certain beliefs about any product or service grow not from any rational thinking process but from an emotional attachment that contributes to our overall attitude. Marketers, in the present open market economy, deliberately accentuate beliefs derived from the hedonic benefits of products or services rather than the same derived from utilitarian benefits. 3) Connative Function – This affects our ultimate attitudinal behavior. It may be consumer behavioral attitudes or the joint effects of cognitive and affective functions. It is consumer behavioral attitudes or tendencies to respond in a certain manner toward mGov which finally leads to intention. Different rational, emotional, and behavioral beliefs of individuals, jointly or separately, provide a sense of feelings toward these three components of attitudes; it is ultimately this combination that develops consumer intention toward the mGov (ITM) system. Based on these arguments and the underlying concepts of literature reviewed in the previous sections, we propose the following general theoretical approach, shown in Figure 1 (this is supported by TPB, Ajzen, 1991) , for our further investigation of theory development.
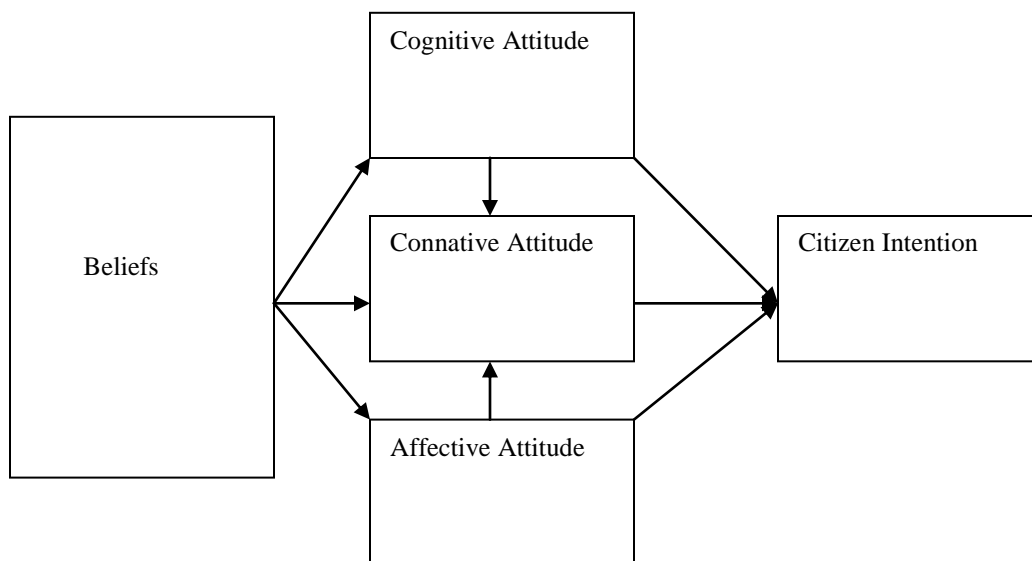
Figure 1 Theoretical Paradigm of Citizen Attitude-Intention

Pavlou and Chai (2002) conducted an empirical study among consumers of China and the USA and asserted that different beliefs are the driving forces that manifest consumer attitudes toward electronic-commerce; the difference in these beliefs can be attributed to the differences in cultural traits, as explained by Hofsted (1980). Park and Jun (2003) investigated Internet buying behavior and suggested that different social and behavioral beliefs are the antecedents of forming attitudes toward acceptance; the potential differences in these beliefs are rooted in the cultural traits identified by Hofsted. The effect of cultural traits on behavioral attitude is identified by Espinoza (1999) through a literature synthesis. Straub (1994) launched empirical studies among consumers of Japan and the USA to identify attitudinal beliefs toward the adoption of email and fax and postulated the effect of culture on beliefs. Based on a literature review of consumer behaviors and intention toward ICT adoption through attitude development and the moderating effect of cultural traits identified by Hofstede's cultural dimension, we designed an investigation of differences in consumer intention toward the mGov (ITM) system through attitude based on the three cultural dimensions of Hofstede (1980), listed in Table 1, for our samples collected from Bangladesh and the USA. Hofstede defined the three concepts as follows:

- Power distance (PD): the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally.
- Individualism: the degree of interdependence a society maintains among its members.
- Uncertainty avoidance (UA): The extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid these.

Table 1 Cultural Dimension from Hofstede (1980)

Country	Cultural Dimension		
	Uncertainty avoidance (UA)	Individualism	Power distance (PD)
Bangladesh	60	20	80
USA	46	91	40

3. Hypothesis Design for Attitudinal Beliefs Leading to Intention

Beliefs are the mental feelings, ideas, perceptions, and experiences which consumers spontaneously create to judge any product or service favorably or unfavorably (Conner and Sparks, 1995). Since, we have categorized attitude into three components, namely cognitive, affective, and connative (see Figure 1), in this section, we have derived our hypotheses based on the cognitive, affective, and connotative beliefs which contribute in developing those three components of attitudes respectively (shown in Figure 2).

Beliefs regarding mGov can be developed from technological understanding; individual mental status; and social norms, rules, and regulations (Scholl, 2005). According to TRA and TPB, before and during the evaluation of any object and creating an understanding about that object consumers subconsciously or consciously import and develop different feelings and judging indicators which we call beliefs. Since attitude is the sum of judgment composed of different

beliefs gathered from rational thinking, emotion, and behavior, the overall attitude of consumers toward mGov is very complex and multi-dimensional, and this attitude is rooted in several technological, behavioral, and social paradigms (Damodaran et al., 2005; Lallana, 2008). Since attitude toward mGov is an exploratory type research, to identify the independent constructs which may have significant effect in researching citizen attitudes toward mGov, we have investigated different behavioral theories like TPB, the self-efficacy theory and DOI, technology adoption models like TAM and E-government Adoption Model (GAM) (Dwivedi et al. 2011; Rana et al., 2011; 2012; 2013ab; Shareef et al., 2011), research studies on consumer behaviors (Pavlou and Chai (2002; Romano Jr. et al., 2010), consumer attitudes toward technology (Moynihan et al., 2010) , service requirements (Shareef et al., 2011; Yang et al., 2003; Zeithamal et al., 2002), and citizen behavior toward mGov (Carroll, 2005; Streib, 2003; Jiang, 2009). Based on the above references, as an exploratory study, we have proposed the following constructs which may have an effect in forming an intention toward the mGov (ITM) system.

3.1 Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)

Users of mGov need this service for better efficiency, availability, cost-effectiveness, flexibility, and more functionality (Carroll, 2005; Scholl, 2005). Citizens are particularly receptive to this phenomenal service system when the value of information is based on time – during disasters, weather alerts etc. – and when mobile information is required to perform daily functions at the right time while in transit, such as paying parking fees, government dues, buying tickets, etc. (Carroll, 2005). Thomas and Streib (2003) affirmed that consumers are likely more interested in evaluating online government services like mGov if they feel it is more convenient, dynamic, and versatile than a physical government office. They remarked that with respect to time and cost, web-based government service facilitates consumers. The reasons underlying this statement are somewhat more appropriate and applicable for mobile-based government service, or mGov, where consumers can easily seek government services from anywhere and at any time while travelling. Since consumers can interact with a government portal through mobile or smart phones, 'ease of use' is also an important aspect when consumers form their motives for use of mGov. This argument gets strong support from transactional cost analysis (Williamson, 1981). Both DOI and TAM, rooted in beliefs of cognitive attitude, show that the perception or belief of usefulness and user-friendliness of the ICT system are strong driving forces for developing a positive attitude toward any ICT based system (Poba-Nzaou et al., 2014; Zhang et al., 2011). Consumers are consciously concerned that instead of using brick and mortar government service and even instead of eGov, they can interact with the public administration service system without almost any effort at any time, even after office hours. While travelling, they can seek important government services such as weather alerts, road conditions, accidents, terrorism alerts, etc., and also pay bills through mGov (Kushchu and Kuscu, 2003; Jiang, 2009). Therefore, PU, which is a construct of TAM and is defined as the rational belief of the overall benefits consumers can achieve by using an mGov service system, is the cognitive component of belief that leads to developing this attitude which finally forms intention. For adoption of electronic data interchange (EDI), Iacovou et al. (1995) identified that the perceived benefits of the system positively enhance customer beliefs about the system. PEOU, which is a construct of TAM, can be visualized for mGov as the rational belief of seeking government service very easily and effortlessly without any technological complexity and having no online interaction trouble through mobile phones. When consumers find any ICT-based system user friendly, they also find the system to be useful (Bandura, 1986). This statement is supported by TAM.

Examining the underlying concept of the self-determination theory (Deci and Ryan, 1985), we understand that the effortless interaction facility through mobile phones to seek government service can help consumers develop a positive cognitive attitude toward mGov leading to intention. Based on the self-efficacy theory (Bandura, 1986) and the empirical findings of Pavlou and Chai (2002), the user-friendly application of mobile phones that is PEOU directly encourages consumers to seek government services through mGov and also enhances consumer cognitive judgments of the benefits of the system (PU). Thus we propose:

H_1: A belief in perceived usefulness (PU) leads to a positive intention toward the mGov (ITM) system.
H_2: A belief in perceived ease of use (PEOU) leads to a positive intention toward the mGov (ITM) system.
H_3: A belief in perceived ease of use (PEOU) affects the perceived usefulness (PU) belief toward the mGov system.

3.2 Perceived Security and Privacy (PSP) and Perceived Reliability (PREL)

Citizens are concerned about different kinds of risks of security and privacy while interacting in the virtual medium; these risks include identity theft, information hacking, abuse of credit cards, and sharing of personal information (Bhattacherjee and Premkumar, 2004; Oni and Papazafeiropoulou, 2014). Reliability, security, and privacy issues are even more vulnerable in mGov for two reasons. In mGov, unlike eGov, citizens frequently do many financial jobs like paying parking fees, utility bills, any government financial dues, income tax and duties, and booking and buying tickets for many events; they may also collect medical and agriculture-related advice and get SMS for weather alerts, road conditions, and terrorism. For these transactions, consumers rationally acknowledge the security and privacy status of the system, evaluate the system's authenticity and dependability, and form a cognitive attitude regarding mGov (Kumar and Sinha, 2007; Scholl, 2005). The second reason for consumer concern about reliability, security, and privacy regarding mGov is based on technological issues. mGov interactions and transactions are conducted through an open network where data interception by illegal entities is a concern and it has a serious effect on rational belief (Kumar and Sinha, 2007).

This security and privacy perception (PSP), which we deem as the belief of losing control in technological virtual interface and thus perceive to be a financial and identity risk, is rooted in consumer conscious thinking which uses a cognitive attitude (Scholl, 2005). Consumers rationally believe, analyze, and evaluate that if proper measures are not embedded in an online system, it might create a potential security and privacy threat, which reduces their interest in an online system (Burgess et al., 2011). As a result, the perception of security and privacy also contribute to the belief of the reliability of the system. A belief in security and privacy is crucial to the confidence of users in the safety of the site (Hausken, 2014; Schaupp and Bélanger, 2005). Several researchers of transformational government and ICT (Anttiroiko, 2005; Parent et al., 2005; Scholl, 2005; Welch and Pandey, 2005) agree that consumers are keenly aware of security and privacy of online interactions and transactions, and they develop positive beliefs if they perceive that the system is structured with sufficient protective mechanisms in light of a security and privacy threat. Based on these arguments, PSP is conceptualized as a significant factor in creating a belief which develops a cognitive attitude among consumers toward mGov leading to intention.

PREL for mGov can be defined as the rational belief of consumers regarding trustworthiness and authenticity of the overall mGov service system, that it is accurate, guaranteed, and well supported by governments, as service providers have promised (Shareef et al., 2011). Irani et al. (2007) identified that consumers can depend on and trust the online government service system, if they find it reliable; these reliability feelings can develop favorable beliefs in their analytical evaluation of the system. The perceptions of reliability and security are strong beliefs for consumers to develop positive attitudes toward any virtual medium system (Pavlou and Chai, 2002). This argument is supported by the social penetration theory (Altman and Taylor, 1987) and the literature review of McKnight and Chervany (2002). From these connected references, we can infer that if consumers have a perception of the reliability of mGov, they will develop favorable beliefs toward mGov. From TPB, this favorable belief can positively influence consumer attitudes, which ultimately affect the behavioral intention to adopt mGov. Following the implied notion of the protection motivation theory (Rogers, 1995), we suggest that consumer cognitive belief about the usefulness of the system (PU) largely depends on the perceived reliability and perceived security of the mGov system. Drawing conclusions from these arguments, we propose:

H_4: A perception of security and privacy (PSP) leads to a positive intention toward the mGov (ITM) system.

H_5: A perception of reliability (PREL) leads to a positive intention toward the mGov (ITM) system.

H_6: A perception of security (PSP) affects the belief of perceived reliability (PREL) of the mGov system.

H_7: A perception of reliability (PREL) affects the belief of perceived usefulness (PU) of the mGov system.

3.3 Perceived Empathy (PEMP)

Parasuraman et al. (1985) in SERVQUAL and several researchers (Cao et al., 2005; Zeithamal et al., 2002) from their empirical studies explained that perceptions of service provider empathy (PEMP) can develop a positive attitude in consumers toward a brick and mortar service system. mGov service is offered in a virtual medium with the apparent absence of any physical contact with customer service; nevertheless, the emotional belief of the presence of customer service behind the screen can provide a positive attitude toward mGov. It is a type of "somebody upstairs cares" syndrome. This sense of belonging influences consumer emotional beliefs, which influence their affective attitude toward mGov (Moon, 2004; Moon and Norris, 2005). We can define PEMP for mGov as an emotional belief regarding the cordial, sincere, and prompt response from the customer service of a government service system to satisfy customers regarding any problem or special need. Since, in mGov, consumers transact for financial purposes and interact for vulnerable information, the presence of invisible customer service and its positive response to needs has a strong influence on consumer emotional understandings or feelings toward a positive judgment toward mGov (Archer; 2007; Scholl, 2005). Several researchers (Wolfinbarger et al., 2003; Zeithamal et al., 2002) also argued that the perception of willingness of customer service to provide sincere and caring service, i.e., PEMP, positively affects feelings of dependency or reliability, i.e., PREL. Therefore, we can suggest that the perception of empathy (PEMP), which is an affective component of belief, also supports and

enhances the perception of reliability, which is a cognitive component of belief. Thus, we propose that:

H$_8$: The belief in perceived empathy (PEMP) leads to a positive intention toward the mGov (ITM) system.

H$_9$: The belief in perceived empathy (PEMP) affects perception of reliability (PREL) toward the mGov system.

3.4 Perceived Image

The inception of mGov has dramatically changed the service delivery pattern of the government service system congruent with the dynamic, busy, and technologically skilled life pattern of certain consumers (Lallana, 2008). Since seeking government service through online requires a skill and knowledge of modern technology, acquaintance with modern ICT is sometimes deemed as high profile behavior (Kumar and Sinha, 2007). Consumers feel that those people who are familiar with modern technology and can use it to seek government service have a higher standing in terms of social status (Naqvi and Al-Shihi, 2009). Based on Moore and Benbasat (1991) from DOI, accepting any innovation can enhance the image of users which affects an attitude toward the innovation and influences acceptance of the innovation. PIM, which can be defined for mGov as the belief of superiority and higher status in the society if someone seeks government service through mGov, can contribute in developing the affective component of attitude. Several researchers have argued, through their empirical studies and theoretical paradigms, that PIM can boost consumer feelings toward the online government service system (Phang et al., 2005; Tung and Rieck, 2005), and thus we propose:

H$_{10}$: A positive belief in the perceived image (PIM) leads to a positive intention toward the mGov (ITM) system.

3.5 Perceived Enjoyment (PENJ)

Romano Jr. et al. (2010), based on literature synthesis, suggested that perceived enjoyment (PENJ) for ICT has an encouraging influence on developing a belief that leads to a positive attitude. They claimed from a theoretical base that enjoyment pursues intrinsic motivation – when consumers mentally enjoy interaction with an online system, they feel emotional attachment toward the system. Perceived enjoyment (PENJ), conceptualized for mGov as the belief of pleasure and fun or that consumers can get hedonic benefits while interacting with the government service system through mobile/smart phones, contributes to their affective attitude toward mGov which leads to final intention, creates emotional benefit, and, thus, supports a psychological attachment (Scholl, 2005). Several E-commerce or mobile technology researchers (Kim et al., 2006; Santos, 2003; Tesoriero et al., 2014) identified that while interacting with websites, if consumers can enjoy the information gathering and service delivery pattern of the system and if the overall system is playful and full of fun, consumers find emotional motivation to interact with the website. Following the above arguments, we propose:

H$_{11}$: The perception of enjoyment (PENJ) leads to a positive intention toward the mGov (ITM) system.

3.6 Perceived Compatibility (PCOM)

Consumers increasingly feel that interacting with the government service system through a mobile device supports a fast-moving and dynamic lifestyle, freed from many time constraints (Trimi and Sheng, 2008). Based on the DOI theory and shedding light on TPB, we found that the perception of compatibility (PCOM) of consumers toward the service delivery and receiving pattern of mGov developed their behavioral attitude toward mGov. We conceptualize PCOM toward mGov as the belief in a similarity with their personal characteristics, habits, expectations, customs, and emotions with service offering a style of mGov, and this positive response affects their ultimate behavior. When consumers find a congruency between their personal, professional, and social lifestyles, characteristics, and motives, and the special characteristics of mGov, they develop a connative attitude toward mGov. From the social penetration theory (Altman and Taylor, 1987), we believe that since PCOM can influence analytical, emotional, and behavioral beliefs toward mGov, it gradually assists the intimacy of consumers with mGov, which finally leads to a positive attitude toward the system. The social identity theory (Tajfel, 1972) that when individuals discover that their emotional values are similar to another similar group they are happy to seek an emotional membership with that group also provides insights. This argument specifies that PCOM can enhance PENJ toward mGov. Thomas and Streib (2003) also suggest that if consumers discover a synchronization between their own personal style and the characteristics of web-based government service system, they find that using the system can be fun. Based on these concepts, we propose:

H_{12}: The perception of compatibility (PCOM) leads to a positive intention toward the mGov (ITM) system.

H_{13}: The perception of compatibility (PCOM) affects the perceived enjoyment (PENJ) in using the mGov system.

Based on these hypotheses, we refer to the following model, depicted in Figure 2
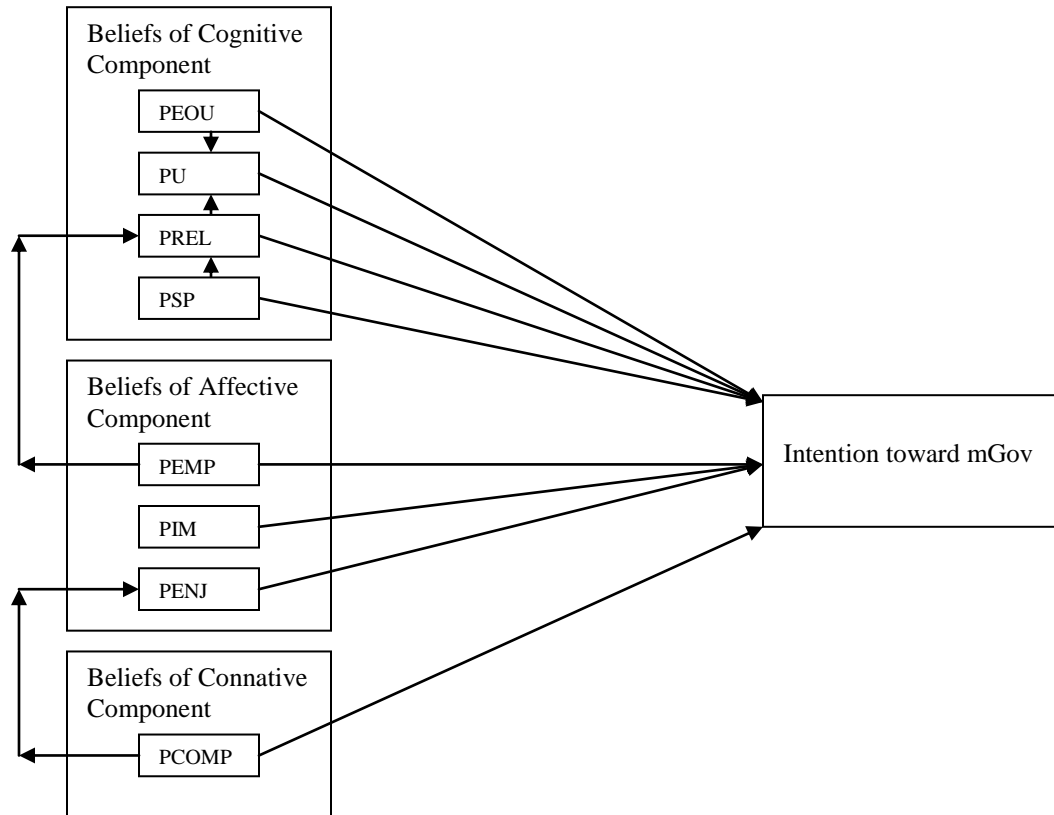
Figure 2 Belief-Intention Model of mGov

4. Research Methodology

In this study, we have explored consumer intention toward mGov through attitude development in two different countries, Bangladesh and the USA, which have different cultural traits shown in Hofstede's cultural dimension, as depicted in Table 1. The questionnaire for the three components of beliefs has been primarily developed based on literature review and respective published empirical studies (Bélanger and Carter, 2005; Carroll, 2005; Collier and Bienstock, 2006; Davis, 1989; Fishbein and Ajzen, 1975; Meso et al., 2005; Moore and Benbasat, 1991; Parasuraman et al., 2005; Rogers, 1995; Scholl, 2005; Shareef et al., 2011). The scale items were also developed considering the theoretical aspects of TAM (Davis, 1989), TPB (Ajzen, 1991), and DOi (Rogers, 1995). The questionnaire (shown in Appendix A) has a total of eight independent constructs as the beliefs of consumers with 44 measuring items and one dependent construct as the intention toward mGov (ITM) through attitude development with four measuring items. We verified the constructs and measuring items for consistency and accuracy through a focus group of three university professors from a Canadian university and three members from a Bangladeshi university who have expertise in defining ICT-based attitudes. Based on the specific recommendations of the focus group, we edited the measuring items.

We have enlisted three demographic questions – gender, Internet experience, and age – to explain sample representation of the respective society. We used a Likert-type scale of -5 (strongly agree to strongly disagree) to measure respondent perceptions. The measuring scale

items of the independent constructs were primarily extracted from a literature review (Bélanger and Carter, 2005; Carroll, 2005; Collier and Bienstock, 2006; Meso et al., 2005; Parasuraman et al., 2005; Scholl, 2005; Shareef et al., 2011; Wolfinbarger and Gilly, 2003; Zhu et al., 2002) and were then modified according to an mGov service delivery pattern. In both Bangladesh and the USA, consumers were asked to respond if they have experience in seeking government service (interaction/transaction) through mobile/smart phones for the specific service in the last six months. For a better response rate and specific perception, we mentioned separate specific tasks of mGov, which is popular in both Bangladesh and the USA. These tasks are:

1. Pay utility bills (Bangladesh): Bangladeshi consumers can pay their household utility bills through mobile phones.
2. Pay parking fees (New York, USA): In New York, USA, local government offers the ability to use smart phones for the car parking payment.

For Bangladesh, the empirical study was conducted in Dhaka city among general citizens. We used two research assistants to physically distribute the questionnaire, with return postage, among 350 household addresses. The addresses were selected randomly, dividing the city and the adjacent areas into four regions. Then the research assistants distributed the questionnaire among citizens having different demographics such as dwellers in slums, houses, condominiums, and apartments in these four regions. Our return was a total of 206 completed questionnaires, which indicates around a 59% response rate.

In New York, USA, we conducted the empirical study in two boroughs, Bronx and Queens, to ensure multi-cultural variations in our sample. Each borough was divided into five regions named east, west, north, south, and center for our sample selection. From the telephone white pages, we collected addresses of houses, condominiums, and apartments of residents. With the help of volunteers, we distributed the questions personally, met with the residents, and, after confirming their eligibility, i.e., that they had experience in paying parking through mobile phones, to participate in this study, we requested them to respond. We distributed the questionnaires among 350 addresses and got a return of 142 completed questionnaires, which indicates a response rate of 41%.

5. Data Analysis

We first conducted demographic analysis for the samples collected from the two countries. We learned that the average age of the respondents in Bangladesh is 37 and for the USA 28. The age differences can be easily explained. For Bangladesh, the mGov task of paying bills is done mainly by family heads and since this service option is too complex for an older person who does not have good skills in modern ICT, the average age is higher. For the USA, this service is new and primarily available through smart phones, which are mainly used by the younger generation. Obviously, the younger individuals are more interested in exploring this popular service using their smart phones.

At first, we conducted exploratory factor analysis (EFA) of the survey results. Those items which are loaded less than .40 or cross loaded more than one factor were removed (Stevens, 1996, pp. 389-390). EFA analysis retained all the eight factors as the attitudinal beliefs toward mGov that we developed from our theoretical arguments. From Appendix A, among the 44 measuring

items, the following items were removed: PEOU5, PREL6, PREL7, PREL9 (only for the USA), PEMP5, and PIM3. For all other measuring items, they loaded according to the theory under the respective constructs. Finally, we retained eight constructs with 39 measuring items for Bangladesh and 38 for the USA to measure the intention toward mGov (ITM) through attitude development.

We conducted confirmatory factor analysis (CFA) for the eight independent constructs and one dependent construct and retained any measuring item if its loading factor exceeded or equaled 0.50 (Kline, 2005). We verified the model fit indices with the recommended values for CFA and acknowledged the validity of retaining those eight independent variables and their measuring items, as retained in EFA, and one dependent construct with four measuring items. The conformity of the theoretical formulation of the constructs on the scale items are reflective indicators of their corresponding constructs, and this was achieved by the CFA results indicating construct validity (Chau, 1997). The CFA result also affirmed convergent validity (Fornell and Larcker, 1981) and discriminant validity (Espinoza, 1999).

We carefully verified the reliability of the constructs of the two samples separately using Cronbach's alpha (Cronbach, 1951). Since the coefficient alpha for the eight independent variables and one dependent variable scored in the range from 0.766 to 0.910, we affirmed construct reliability (Nunnally and Bernstein, 1994).

We employed LISREL for structural equation modeling (SEM) of path analysis. We took the average of the measuring items of each of the variables individually for the samples from the two countries separately and conducted path analyses with the maximum likelihood procedure using a correlation matrix as input data for all the variables.

5.1 Path Model: Bangladesh

Based on our primary output of model fitness indices, we failed to accept the model. Our Chi-square, degree of freedom (df), probability (p), and root mean square error of approximation (RMSEA) are 34.21, df 7, p-value 0.00000, and 1.11 respectively, which reflects poor model formulation. Statistical analysis recommended adding certain error covariance terms, which indicates that unique variances of the associated constructs overlap − i.e., they measure some common beliefs between PEOU and PREL and between PU and PSP. This resulted in a better model; however, it is still poor. We verified the significance of the relationships by 't' values of all the relations between dependent and independent constructs. Path analysis output revealed that PEOU, PU, PEMP, PREL, and PSP are significant beliefs for mGov intention at the 0.05 level. Our hypotheses that PEOU affects PU and PSP and PEMP enhances PREL are significant at the 0.05 level. However, the other causal relationships − like the relations of PCOM, PIM, and PENJ with ITM, and the relations between PREL and PU, and PCOM and PENJ − are not significant, even at the 0.10 level. We removed those non-significant relations from the model and ran it again, which provided a reasonably better model with accepted model fitness as recommended by researchers (Hu and Bentler, 1999; Kline, 2005, pp. 133-144; Segars et al., 1993). The loading factors and fitness indices are shown in Figure 3A. The Chi-Square statistic, p-value, RMSEA, comparative fit index (CFI), goodness of fit index (GFI), and normed fit index (NFI) are listed in Table 2 with the recommended values in the literature which justify the model acceptance. The squared multiple correlation coefficient (R^2), explaining the amount of variance

the independent constructs (beliefs) account for in the dependent variable (intention toward mGov) is 0.46. It means that 46% of variance on intention toward the mGov service system through attitude is explained by the identified beliefs. The relation between significant beliefs and attitude leading to intention for the Bangladeshi sample is numerically shown in Appendix B.
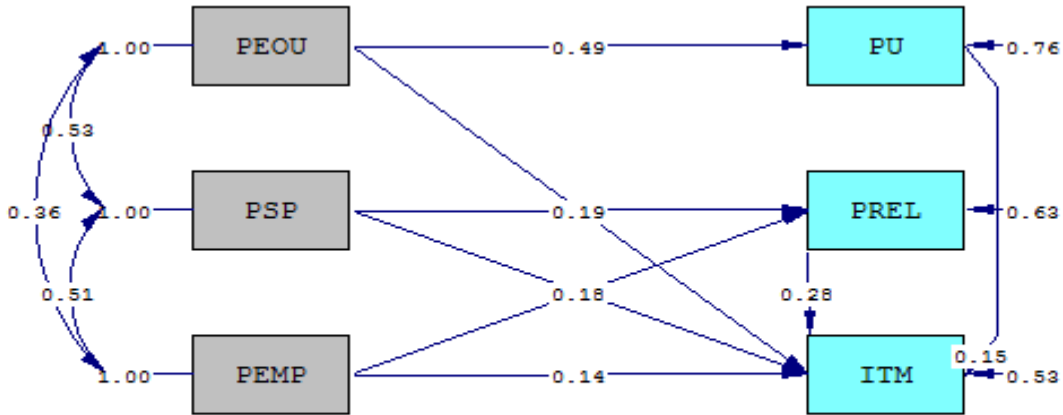
Chi-Square=5.71, df=4, P-value=0.22176, RMSEA=0.046

Figure 3 - A Belief-Intention Model of mGov for Bangladesh

5.2 Path Model: USA

Following the same procedure as we followed for Bangladesh, after several refinements in the light of theoretical justification and statistical recommendation, the final belief-intention model for the USA sample is shown in Figure 3B. The verified model fitness indices are reasonably acceptable, as listed in Table 2 with the recommended values. The squared multiple correlation coefficient (R^2) is 0.48. The relation between significant beliefs and attitude for the USA sample is numerically shown in Appendix B.
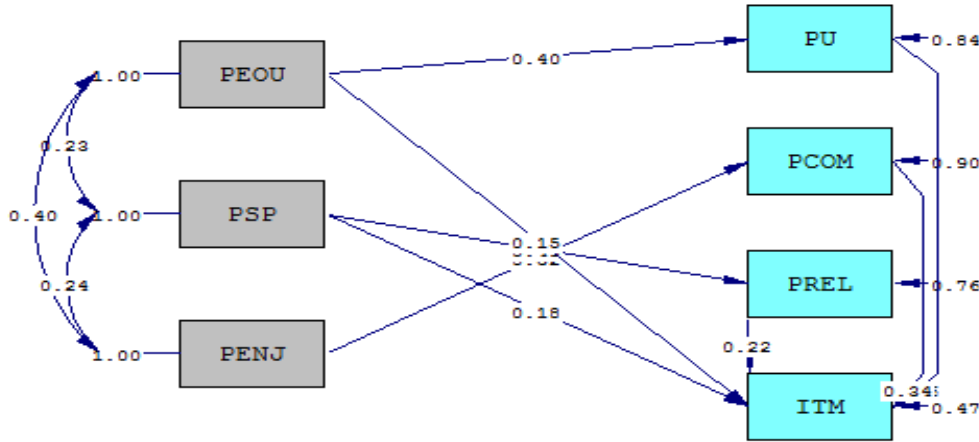
Chi-Square=11.26, df=10, P-value=0.33735, RMSEA=0.030

Figure 3B Belief-Intention Model of mGov for the USA

Table 2: Model Fitness Values

Fit Measures	Recommended Values	Adoption Model	
		Bangladesh	**USA**
Chi-square (χ2)	p≥0.05	5.71 (0.22176)	11.26 (0.33735)
Degrees of Freedom		4	10
χ2/Degree of Freedom (DF)	≤3.0	1.4275	1.126
Comparative Fit Index (CFI)	≥.90	1.00	1.00
Goodness of Fit Index (GFI)	≥.90	0.99	0.98
RMSEA	<0.06	0.046	0.030
Normed Fit Index (NFI)	≥0.90	0.99	0.96

6. Results

Based on the findings from the Bangladeshi sample, we identified that the following beliefs: perceptions of ease of use (PEOU), usefulness (PU), reliability (PREL), empathy (PEMP), and security and privacy (PSP) create a positive intention among the consumers toward the mGov system (ITM), i.e., the related hypotheses are accepted. We also observed that, as we hypothesized, PEOU enhances PU, and PSP and PEMP support developing PREL about an attitude leading to intention in favor of the mGov system. We did not find any significant relations for perception of compatibility (PCOM), perception of image (PIM), and perception of enjoyment (PENJ) with developing a positive intention toward the mGov system, i.e., beliefs of compatibility, status image, and fun and pleasure do not have a significant positive impact on the intention to use mGov. We also did not discover any significant relations among PCOM, perception of enjoyment (PENJ), PREL, and PU. The final status of the hypotheses are listed in Table 3.

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From Figure 3A, a unit positive change on PEOU has an effect on the mGov intention which causes a .19 unit positive change on intention toward mGov (ITM) when PU, PEMP, PREL, and PSP are constant. A unit positive change on PU causes a .15 unit positive change on ITM when all other factors remain constant. Similarly, a unit positive change on PEMP, PSP, and PREL individually causes .14, .18, and .28 unit positive changes respectively on ITM when all the significant causal relations with the mGov intention, excluding the unique mentioned relation, are constant. A unit positive change on PSP causes a .19 unit positive change on PREL, a unit positive change on PEOU causes a .49 unit positive change on PU, and a unit positive change on PEMP causes a .18 unit positive change on the PREL of mGov intention. Similarly, we can reveal the regression coefficients of the USA sample depicted in Figure 3B.

For the USA sample, we identified potentially different results. These potential dissimilarities, based on samples from two different countries, have to be explained from the cross-cultural differences using Hofstede's cultural traits depicted in Table 1. For the USA sample, we revealed significant relations between the mGov intention and PEOU, PU, PREL, and PSP, which are similar to the Bangladeshi sample. In a similar result to the Bangladeshi sample, we also observed that PEOU enhances PU, PSP supports developing PREL, and PREL does not have any impact on PU about the use of mGov service, although the degree of the effects of those beliefs on attitude leading to intention differ marginally or significantly for these two samples. However, unlike Bangladesh, we did not identify PEMP to have any significant relation either directly with attitude or indirectly through PREL for the USA sample. But, for the USA sample, unlike Bangladesh, we discovered that PCOM has a significant impact on ITM. Like the Bangladeshi sample, we did not identify PCOM as the cause of PENJ, rather for the USA sample, based on the specific recommendation of LISREL, it was suggested that we define the reverse relation, i.e., PENJ causes PCOM. This causal relation suggests the concept that the overall enjoyment, pleasure, and fun of the mGOv system can boost the belief of attachment and membership with mGov, which we have defined here as PCOM. The underpinning ontological concepts of the social penetration theory (Altman and Taylor, 1987) and social identity theory (Tajfel, 1972) provide justification for this finding. These observed results are depicted in Table 3.

Table 3 Status of Hypotheses

Proposed and New Hypothesis	Country Status	
	Bangladesh	USA
H$_1$: A belief in perceived usefulness (PU) leads to a positive intention toward the mGov (ITM) system.	Accepted	Accepted
H$_2$: A belief in perceived ease of use (PEOU) leads to a positive intention toward the mGov (ITM) system.	Accepted	Accepted
H$_3$: A belief in perceived ease of use (PEOU) affects the perceived usefulness (PU) belief toward the mGov system.	Accepted	Accepted
H$_4$: A perception of security and privacy (PSP) leads to a positive intention toward the mGov (ITM) system.	Accepted	Accepted

H₅: A perception of reliability (PREL) leads to a positive intention toward the mGov (ITM) system.	Accepted	Accepted
H₆: A perception of security (PSP) affects the belief of perceived reliability (PREL) of the mGov system.	Accepted	Accepted
H₇: A perception of reliability (PREL) affects the belief of perceived usefulness (PU) of the mGov system.	Rejected	Rejected
H₈: The belief in perceived empathy (PEMP) leads to a positive intention toward the mGov (ITM) system.	Accepted	Rejected
H₉: The belief in perceived empathy (PEMP) affects perception of reliability (PREL) toward the mGov system.	Accepted	Rejected
H₁₀: A positive belief in the perceived image (PIM) leads to a positive intention toward the mGov (ITM) system.	Rejected	Rejected
H₁₁: The perception of enjoyment (PENJ) leads to a positive intention toward the mGov (ITM) system.	Rejected	Rejected
H₁₂: The perception of compatibility (PCOM) leads to a positive intention toward the mGov (ITM) system.	Rejected	Accepted
H₁₃: The perception of compatibility (PCOM) affects the perceived enjoyment (PENJ) in using the mGov system.	Rejected	Rejected
New Hypothesis: The perception of enjoyment (PENJ) affects a belief in the perceived compatibility (PCOM) of the mGov system.	Rejected	Accepted

7. Discussion and Implication

From the above empirical investigation on the proposed hypotheses, we identified the critical factors which have a significant impact on formulating intention toward the mGov (ITM) system. We recognized that PU, PEOU, PSP, PREL are the common factors for shaping attitude in both the Bangladeshi and USA samples. We also identified that PEOU has an effect on PU, and PSP affects PREL. However, PREL has no significant effect on PU. This finding fulfills our first objective.

However, we observed certain different results from Bangladeshi and USA samples. For example, in Bangladeshi citizens, PMP has a direct effect on intention and an indirect effect through PREL, which are not visible for the USA sample. On the contrary, USA citizens acknowledged that PCOM has a significant effect on their intention toward mGov and PENG has an indirect effect on their intention through PCOM. These relations are not accepted by Bangladeshi citizens. These findings justified our second objective that differences in cultural

traits have potential impacts on the critical factors pursuing citizen comprehensive intention toward the mGov system.

Any cognitive beliefs of consumers related to technological innovations have a potential impact on the intention toward the mGov system; however, emotional and behavioral beliefs from individual characteristics and social phenomena, as well as the moderating effects of cultural traits, play a significant role where the service system is impersonated, dynamic, virtual, and spontaneous, and has a real time value (Romano Jr. et al., 2010). For both of the samples, image and enjoyment do not have any strong impacts on formulating intention toward the mGov system, although we hypothesized from the theoretical argument that both of these beliefs have an impact on the affective component of attitude. Using mobile phones is not a recent trend, but one that has achieved maturity, and we are now in the 4G model era. The proliferation of mobile phones in both the USA and Bangladesh is higher than that of the computer and Internet — it is no longer a matter of status or fun. From the observational learning theory (Ertmer and Newby, 1993), consumers keenly observe the actions and performances of others and acknowledge a stimulus-reinforcement for their future behavior.

Shedding light on the behavioral learning theory (stimulus-consumer-response) (Nord and Peter, 1980), interaction with the government service system might not act as a stimulus to develop a response; however, when it is coupled with mobile phones it could create a response among consumers. However, at this mature usage stage for mobile phones, both in Bangladesh and the USA, self-usage or watching others' mobile phone usage cannot act as a stimulus for consumers to enjoy or feel a higher social status. Parasuraman et al. (2005) supports this argument while developing online service quality matrix. For both of the samples, we did not find any impact from reliability in developing a belief on the usefulness of the mGov service system, although we predicted this relation. The reason may be that consumers have used to the online virtual medium for years and are already aware of the reliability features and usefulness of seeking government service through mobile/smart phones (Scholl, 2005). A belief in reliability is, therefore, not a newly added perception (Misuraca, 2009) that can further boost or contribute to the perception of usefulness of the system. As a result, there is no cause and effect relation between PREL and PU.

Now we will look at the differences observed from the findings between the two samples focusing on cross-cultural theories and Hofstede's cultural traits. First, we will investigate differences in the antecedent construct beliefs and look for conceptual support to explain those differences. Along with other beliefs, Bangladeshi consumers develop their intention and attitude (more specifically, affective component) toward mGov from the belief of empathy. For them, the affective attitude leading to intention toward mGov is greatly impacted by the perceived appearance and caring behavior of customer service, although for mGov, it is hardly visible or required. For the USA consumer, the affective component of attitude leading to intention is completely ignored. They do not use mGov from a belief in empathy, i.e., perception of the presence of customer service behind the screen, and caring behavior does not have any influence to create an emotional attachment to mGov. From the implied interpretation of the Straub et al. (1997) findings – which validated TAM in three countries: the USA, Switzerland, and Japan – collectivist societies are more prone to emotional attachment than the perceived usefulness of an online system. Pavlou and Chai (2002) initiated studies in China and the USA, and their findings support our result that collectivist societies are influenced by the emotional attachment of

customer caring. They remarked from the reference of Hofstede (2001) that the individualistic society is more objective than affective. From Table 1, we clearly identify that the USA is a highly individualistic society and Bangladesh is a leading collectivist society. So our finding is clearly justified by acknowledging the cultural difference. Jarvenpaa and Todd (1997) asserted that USA consumers are more utilitarian in online behavior. A similar result was observed in Mattila's (1999) study conducted among Western and Asian consumers. He suggested that an individualistic society depended more on tangible cues and an internal thinking process and, thus, their attitude develops based more strongly on internal mental ability than their Asian counterparts, which are supported by cognitive learning theory.

Individualistic societies, like the USA, are more realistic and develop a favorable belief if they find it congruent with their implied psychological status and visible behavioral characteristics (Espinoza, 1999; Lane and DiStefano, 1988; Pavlou and Chai, 2002). USA consumers are more focused on personal needs and interests (Donthu and Yoo, 1998; Park and Jun, 2003). If they have the belief that an online service system (like mGov) can offer the service which they require according to their lifestyle, mentality, and professional requirements, they are more likely develop a connative, i.e., behavioral, attitude toward mGov leading to intention (Hwang 2005; Pavlou and Chai, 2002). Cross-cultural theorists, from theoretical paradigms and empirical findings, strongly asserted that an individualistic society like the USA will find a behavioral pattern congruent with any online system if it can provide pleasure and mental entertainment (Rice, 2002; Santos, 2003). Since consumers living in a low power distance society need fun and satisfaction while interacting with public service through online, they explicitly and invariably need enjoyment to believe the system is compatible with their behavioral norms (Loiacono et al., 2002). Consequently, PCOM is a strong belief for creating intention toward the mGov system through attitude and PENJ is a source of compatibility belief for USA consumers. On the other hand, consumers in a high power distance society like Bangladesh perceive public administration to be very powerful, difficult, and non-cooperative as well as corrupted – so receiving government service is always precious and getting it on time is sufficient for them. Consumers of high power, distance countries do not abide by their personal interest and are not at all concerned about their lifestyle congruency with the public service system or fun and pleasure (Ein-Dor et al., 1993; Espinoza, 1999). Donthu and Yoo (1998) affirmed, "Customers of [a] high power distance culture would respect the service providers and think the providers' work is beyond their grasp." Consumers of high power, distance societies like Bangladesh are still not attempting to realize or interested in realizing the congruency of the public service system with their unconscious and deeply buried behavioral pattern; as well, they do not find this congruency as the outcome of enjoyment. This argument is supported by a similar result observed by Pavlou and Chai (2002). Consequently, the finding that compatibility is not a strong belief for Bangladeshi consumers to formulate their intention toward the mGov service system through attitude and enjoyment is not a cause for a strong compatibility belief stems from Hofstede's (2001) cultural traits.

Now we can analyze significant differences in the magnitude of the effects of some beliefs in developing an intention toward the mGov system through attitude between USA and Bangladeshi consumers. For example, consumers in Bangladesh are very concerned about the reliability belief the (regression coefficient is 0.28 for Bangladesh whereas for the USA it is 0.22), which is the strongest construct to develop a positive intention toward the mGov system

through attitude. However, for the USA the effect of perception of reliability is much less pronounced. This difference indicates that USA consumers are not very focused on the reliability of the system. Rather the belief in the usefulness of the system is a strong factor in creating a favorable intention toward the mGov system through attitude (regression coefficient is 0.26 for USA, whereas for Bangladesh, it is 0.15). These profound differences are well supported by different cross-cultural studies (Donthu and Yoo, 1998; Espinoza, 1999; Irani et al., 2007; Romano Jr. et al., 2010) and Hofstede's cultural traits (2001), and they clearly demonstrate the impact of culture on perceiving beliefs and developing attitudes toward the mGov service system. From Hofstede's cultural trait uncertainty avoidance, USA consumers are more risk takers than Bangladeshi consumers. An uncertain situation, virtual environment, apparently invisible transaction, and no direct contact of the mGov service system cannot deter them from embracing the system if they find the system to be useful for them. Consumers of low profile in uncertainty avoidance and power distance and high profile in individualism are more concerned with quality, benefit, and usefulness and are not afraid of a freaky environment (Donthu and Yoo, 1998; Espinoza, 1999; Hofsted, 2001; Pavlou and Chai, 2002). On the other hand, Bangladeshi consumers, having a high score in uncertainty avoidance, are not like to create a positive attitude for any system if it is risky, uncertain, not explicitly understandable, and virtual. As a result, the reliability belief has a significant importance for Bangladeshi consumers to impart a favorable intention toward the mGov system through attitude. At the same time, consumers of a high power, distance country, like Bangladesh, are less concerned with service system quality and have fewer expectations of the public administration service system's usefulness. The above paradigms are strongly supported by the findings of cross-cultural literature, where studies have been conducted in both high and low power distance and uncertainty avoidance countries (Donthu and Yoo, 1998; Lane and DiStefano, 1988; Pavlou and Chai, 2002). The underlying concept of the theory of social exchange (Ekeh, 1974) supports and further explains this argument.

8. Conclusion

We can understand that, due to cultural differences, consumers in Bangladesh and the USA find different sources of beliefs that affect their cognitive, affective, and connative attitudes toward mGov which finally form their intention. We set two primary objectives in our present study. According to our primary goal and first objective, we revealed that consumers in both Bangladesh and the USA get their beliefs from experiences of PEOU, PU, PREL, and PSP in developing favorable intention toward the mGov (ITM) system. For both countries, we identified that the belief of PEOU affects PU and the belief of PSP of the system influences PREL. However, we clearly observed differences in the sources of beliefs and their influence on intention, which demonstrates support for our second objective which we designed to verify the cultural impact on belief-intention relations.

Considering cross-cultural differences among consumers, Nelson and Clark Jr. (1994) argued that, "From a theoretical perspective, a cross-cultural approach to information systems research has the potential to enhance our knowledge by widening our field of vision and questioning existing theories." Culture has an impact on behavioral traits which are not only associated with technological reformation but also associated with behavioral and social attitudinal changes. Our findings explicitly demonstrated that sources of belief and their relative impact on developing an overall intention toward the mGov system through attitude service system for consumers having

less uncertainty avoidance and power distance and highly individualistic cultural traits are significantly different from consumers having high uncertainty avoidance and power distance and high collectivistic cultural traits. Therefore, this study has profound contributions and implications for further investigation of consumers with different cultural traits toward the mGov service system. From our findings, from other cross-cultural studies (Donthu and Yoo, 1998; Espinoza, 1999; Irani et al., 2007; Romano Jr. et al., 2010), and from theoretical insight such as Hofstede's cultural traits (2001), we can claim that consumers having less uncertainty avoidance and power distance and highly individualistic cultural traits are more concerned with compatibility and usefulness beliefs in developing a favorable intention toward the mGov system through attitude, which ultimately might lead to final adoption according to TPB. Therefore, although this needs careful further exploration, we can suggest that while developing mGov service for countries like USA, Canada, and some west European countries that have similar cultural traits, policy makers should include those features and attributes which can support developing compatibility and usefulness beliefs among the users and, therefore, their positive attitude toward the system. They are more concerned with cognitive and behavioral components of attitude and less conscious about empathy and reliability. However, consumers in most of the Asian countries who have high uncertainty avoidance, power distance, and collectivistic cultural traits are more focused on the beliefs of reliability and user-friendliness of the system and find an emotional attachment to a positive intention toward the mGov (ITM) system through attitude if they feel the presence of apparent customer care. So, for the societies having this type of cultural traits, policy makers should design the mGov service system providing relatively more emphasis on the system's reliability, user-friendliness, and responsive customer service, so that consumers can develop the beliefs of dependency, simplicity, and empathy, which will increase their favorable intention toward the mGov service system.

The findings provide a new cognitive avenue for the formulation of the sources of consumer beliefs that contribute toward developing a favorable attitude leading to intention toward a newly developed mGov service pattern that is available and accessible through any hand-held devices such as mobile phones and smart phones. For public administration, reformation, and design of mGov, the findings of this study have potential implications. Researchers and policy makers can get insights from this belief-attitude paradigm and should consider the impact of cultural traits in predicting consumer behavior for the emerging public service system initiated through mGov. Nevertheless, we must affirm that this cross-cultural study has been conducted in only two countries having different cultural traits. Further research should be conducted to support the conclusion of these findings.

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Measurement Items for the Independent Constructs and the Dependent Construct

Perceived Ease of use (PEOU)	*Code*
Learning to seek government service (interaction/transaction) through mobile/smart phones is easy for me.	PEOU1
It would be easy for me to become skillful at seeking government service (interaction/transaction) through mobile/smart phones.	PEOU2
It is easy for me to navigate the website through mobile device.	PEOU3
I believe that it is easy to do what 1 want to do while using the website through mobile device.	PEOU4
I can easily download the website through mobile device.	PEOU5
Perceived Usefulness (PU)	
Seeking government service (interaction/transaction) through mobile/smart phones enabled me to complete without harassment.	PU1
Seeking government service (interaction/transaction) through mobile/smart phones provided a valuable service.	PU2
Seeking government service (interaction/transaction) through mobile/smart phones is useful.	PU3
Seeking government service (interaction/transaction) through mobile/smart phones is less costly in terms of service it provides.	PU4
Seeking government service (interaction/transaction) through mobile/smart phones helps me accomplishing tasks more quickly.	PU5
I can seek government service (interaction/transaction) through mobile/smart phones from anywhere convenient for me.	PU6
I can seek government service (interaction/transaction) through mobile/smart phones at anytime convenient for me.	PU7
I can seek government service (interaction/transaction) through mobile/smart phones during my travel convenient for me.	PU8
Perceived Reliability (PREL)	
I believe service provided through mobile portal is accurate	PREL1
I depend on seeking government service (interaction/ transaction) through mobile/smart phones.	PREL2
I believe my financial transaction with government mobile portal is reliable.	PREL3
I believe information provided through mobile portal is accurate	PREL4
I believe the mobile portal provides organized information.	PREL5
I believe that the service provider keeps promises of doing something by a certain time.	PREL6
I believe that it provides the service at the time it promises to do so.	PREL7
I believe seeking government service (interaction/ transaction) through mobile/smart phones is reliable.	PREL8
I can perform the service right the first time.	PREL9
Perceived Security and Privacy (PSP)	
I believe seeking government service (interaction/ transaction) through mobile/smart phones is safe.	PSP1
I think the government department takes full responsibility for any type of insecurity during seeking government service (interaction/ transaction) through mobile/smart phones.	PSP2
I would not hesitate to provide information during seeking government service (interaction/ transaction) through mobile/smart phones	PSP3
The mobile portal does not share my personal information with other sites.	PSP4
Perceived Empathy (PEMP)	
Mobile portal takes prompt action in case of problems.	PEMP1
Mobile portal takes care of problems as I expect.	PEMP2
In mobile portal, customer service is available.	PEMP3
Customer service response is very quick.	PEMP4
Customer service team at the mobile portal addresses any concerns that I have.	PEMP5

I believe that customer service is important for seeking government service (interaction/ transaction) through mobile/smart phones	PEMP6
Perceived Image (PIM)	
Consumers who seek government service (interaction/ transaction) through mobile/smart phones have high profiles.	PIM1
Consumers who seek government service (interaction/ transaction) through mobile/smart phones have higher knowledge in modern ICT.	PIM2
Consumers who seek government service (interaction/ transaction) through mobile/smart phones have more prestige than those who do not.	PIM3
Seeking government service (interaction/ transaction) through mobile/smart phones enhances consumers' social status.	PIM4
Perceived Enjoyment (PENJ)	
Seeking government service (interaction/ transaction) through mobile/smart phones is attractive/ appealing.	PENJ1
Seeking government service (interaction/ transaction) through mobile/smart phones promotes customer excitement.	PENJ2
Seeking government service (interaction/ transaction) through mobile/smart phones is fun.	PENJ3
Seeking government service (interaction/ transaction) through mobile/smart phones is entertaining.	PENJ4
I feel happy when I use the mobile portal	PENJ5
Perceived Compatibility (PCOM)	
I think seeking government service through mobile/smart phones would fit well with the way that I like to interact/ transact	PCOM1
Seeking government service (interaction/ transaction) through mobile/smart phones would fit into my lifestyle.	PCOM2
I like virtual environment while seeking government service through mobile/smart phones more than personal interaction with physical offices.	PCOM3
Intention toward mGov (ITM)	
I seek government service (interaction/ transaction) through mobile/smart phones	ATM
I like to seek government service (interaction/ transaction) through mobile/smart phones	ATM
I recommend my friends/relatives to seek government service (interaction/ transaction) through mobile/smart phones	ATM
I will continue seeking government service (interaction/ transaction) through mobile/smart phones	ATM

APPENDIX B

Regression Coefficient for Intention

Bangladesh

$$ITM = 0.15*PU + 0.28*PREL + 0.19*PEOU + 0.18*PSP + 0.14*PEMP, Errorvar.=0.53, R^2 = 0.46$$
$$(0.059)\quad(0.065)\quad\quad(0.067)\quad\quad(0.073)\quad\quad(0.061)\quad\quad\quad(0.052)$$
$$2.58\quad\quad 4.34\quad\quad\quad 2.78\quad\quad\quad 2.39\quad\quad\quad 2.27\quad\quad\quad\quad 10.05$$

USA

$$ITM = 0.26*PU + 0.34*PCOM + 0.22*PREL + 0.15*PEOU + 0.18*PSP, Errorvar.=0.47, R^2 = 0.48$$
$$(0.064)\quad(0.059)\quad\quad(0.067)\quad\quad(0.065)\quad\quad(0.068)\quad\quad\quad(0.056)$$
$$4.10\quad\quad 5.86\quad\quad\quad 3.35\quad\quad\quad 2.35\quad\quad\quad 2.61\quad\quad\quad\quad 8.31$$

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