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Development of Citizens' Trust through Social Media Platforms in a Public Food Standards Agency in Pakistan: Role of Transparency and Responsiveness

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ABSTRACT

The problem of citizens' mistrust in government institutions has been prevailing in various countries around the world. Nowadays, government institutions attempt to curb this issue by narrowing the gap of communication with citizens through online channels such as social media, which allows citizens to access timely and authentic information. The purpose of this paper is to assess citizens' perceptions about transparency and responsiveness in the context of social media use of a public agency in Pakistan and to investigate whether the perception about transparency and responsiveness helps in the development of citizens' trust in a government agency. An empirical investigation is conducted by employing a quantitative survey design. The survey data was taken randomly from 393 social media followers of a government agency in Pakistan (Punjab Food Authority), which was then analyzed by using the structural equation modeling technique (CB-SEM) to obtain the findings. The results indicate that the transparency of information and active responsiveness ensured by the Pakistani agency on social media contributes to the development of followers/citizens' trust in that agency. This study contributes to the literature and provides empirical evidence for practical implications. Multiple government institutions in Pakistan and elsewhere, particularly in developing countries, can practically implement such practices in their online communication with citizens to gain citizen trust.

Keywords

Social media, Trust, Perceived responsiveness, Perceived transparency, Pakistan, CB-SEM

JEL

Classification
O38, H11, H83, L40

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1. Introduction

In the last few decades, trust in government institutions has seen a downward trend in various countries all around the world (Denhardt and Denhardt, 2009; Gracia and Arino, 2015) including developed as well as developing countries (Cheema and Popovski, 2010; Khan, 2016) which makes it of utmost importance for scholars and practitioners to find ways to alleviate this issue. Citizens' mistrust in government institutions makes them dysfunctional in terms of service delivery as for the successful implementation of any program, initiative, reform, or service, citizens' support and belief is an essential requirement (Gracia and Arino, 2015). Without the presence of trust, public institutions fail to acquire legitimacy of their decisions which has implications not only for those institutions but for the social and economic growth of the entire country (Porumbescu, 2016). There is a relation of interdependence where citizens depend on government institutions to resolve social issues, make decisions, formulate policies, and to evaluate their effectiveness, and government institutions are also dependent on citizens to abide by the laws, follow the rules and regulations, and to cooperate with the state for its policies to work effectively (Grimmelikhuijsen and Knies, 2015), all of which is not possible without the presence of trust. For this reason, it is of crucial importance that the existing cycle of mistrust be shattered. Lack of trust widens the gap between citizens and government giving rise to problems such as decreased voter turnout, non-compliance, cynicism, tax evasion, and disinterest in political participation (Tolbert and Mossberger, 2006; Kim, 2010). Citizens develop trust in government institutions based on their personal characteristics, experiences, or perceptions (Cook and Gronke, 2005; Song and Lee, 2015). Scholars have identified multiple sources of citizens' trust in government institutions (Chanley *et al.*, 2000). Some citizens put a greater value on economic outcomes and performance (Donovan and Bowler, 2004), others are more concerned about prevailing socio-cultural issues and political factors (Christensen and Laegreid, 2005), while some citizens believe that government institutions are worthy of trust if they include citizens in public decisions (Kim, 2010). Therefore, restoration of citizens' trust in public institutions is a complex process, however, maximum efforts can be exerted to reach and communicate with as many citizens as possible so as to gain their trust.

In this day and age, the use of the internet and communication technologies have proliferated in both personal and professional lives of people especially in the way they communicate. Government institutions have not stayed behind in this regard, 'the use of the Internet and other digital media to deliver government information and services

to citizens' is termed as e-government (Song and Lee, 2015, p.143). E-government platforms were introduced to bring efficiency in service delivery and to minimize the communication gap between citizens and public institutions to eliminate any misperceptions and misunderstandings regarding government decisions in order to restore citizen trust. Many scholars have studied the influence of e-government on citizens' trust in government institutions (Holzer *et al.*, 2004; Morgeson *et al.*, 2011; Smith, 2011; Sharoni, 2012). Most of these studies conclude that e-government platforms enhance citizens' trust in government institutions. Social media is one of the fastest-growing communication channels having 2.62 billion monthly users globally (Statista, 2018) and it has also proved to be one of the most effectively utilized e-government platforms. As mentioned by Linders (2012), "social media has become 'a central component of e-government in a very short period of time' (Bertot, Jaeger, and Hansen, 2012)" (p. 446). Further, highlighting the importance and role of social media in e-governance Dwivedi *et al.* (2017) mention that, "social media has played a massive role in e-government as it has remarkably used a network of social interactions and has widely connected with the diversified population resulting in their enhanced participation, higher engagement, swift and effective communication, easier crowdsourcing and superior trust-building that enabled the government to take the popularity of e-government systems use a step further" (p. 102). Therefore, governments all around the globe are becoming aware of the benefits of social media, and government entities at all levels are gradually turning towards social media platforms not only for information provision but also for interaction with citizens in an efficient way (Criado *et al.*, 2013; Bonson *et al.*, 2012; Mergel and Bretschneider, 2013).

One of the hallmarks of government institutions' social media is the heightened perception of citizens regarding transparency as the information is directly delivered by the institution and directly accessed by citizens (Song and Lee, 2015). Another hallmark is the convenience for the institutions to remain actively present and respond to the public on social media, which enhances the perception of citizens that the institution is concerned about and responsive to the needs, demands, issues and complains of the citizens communicated through social media (Al-Aufi *et al.*, 2017). Therefore, assuming the presence of these two factors in the context of social media of public institutions, the study aims to investigate whether the perception about transparency and responsiveness helps in the development of citizens' trust in a government institution in Pakistan. The number of monthly active social media users in Pakistan have reported to be 35 million in the year 2018 (wearesocial, 2018), which makes it one of the fastest-

growing channel of communication. The concept and practice of e-government as whole is still novel in developing countries like Pakistan (Al-Aufi *et al.*, 2017; Memon *et al.*, 2015), the government of Pakistan mostly use social media platforms for one-way information dissemination (mostly news and updates). However, a change in the trend is being detected and the government is steadily moving towards the effective use of social media to stay connected with citizens (Memon *et al.*, 2015). Therefore, it is significant to examine if the institutions which are employing such mechanisms are reaping favorable outcomes such as the heightened perception of citizens regarding transparency and responsiveness ultimately leading towards the development of citizens' trust in those institutions. As mentioned by Diamond (2007), to build trust, “government must govern better: more transparently, responsibly, accountably, and responsively, with more active engagement with the public and in particular more rigorous respect for the law and the public interest”. The present study aims to contribute to the literature and provide empirical evidence for practical implications. The concept and practice of e-government, particularly through the channels of social media, is still novel in developing countries like Pakistan. Therefore, it was considered significant to examine if the institutions employing such mechanisms in Pakistan are reaping favorable outcomes, the most crucial of which is trust. The study takes the case of Punjab Food Authority which is a food safety and hygiene agency in Punjab, Pakistan.

The next section provides a brief literature review regarding trust in government institutions, perceptions about transparency and responsiveness of the institution, and their relationship with trust as explained by previous studies. Further, the hypotheses are stated, and the research model is illustrated. The section after that provides a statistical analysis of the data. Lastly, the results are discussed and are aligned with the literature, and the conclusions are drawn from the key findings of the study.

2. Literature Review

Citizenship is essentially an existence of a relationship between the government and an individual. However, the concept of citizenship includes multiple aspects which can be elucidated from the definition by Joppke (2007), “Citizenship as status, which denotes formal state membership and the rules of access to it; citizenship as rights, which is about the formal capacities and immunities connected with such a status; and in addition citizenship as identity, which refers to the behavioral aspects of individuals acting and conceiving of themselves as members of a collectivity, classically the nation or the normative conceptions of such behaviour imputed by the state” (p. 38). Therefore, citizenship is more than just identity, although identity is an important aspect of it. In

post-colonial societies there are several groups with different identities of their own, therefore having a national identity is not enough, rather there should be a legitimate sense of shared citizenship across groups (Lall, 2015). Pakistan is a post-colonial society with people having multiple identities and a weak understanding of citizenship. Lall (2015) mentions that the situation in Pakistan about citizenship could be classified as “parochial citizenship” as termed by Almond and Verba (1963). “In developing countries, they argue that the everyday needs of life and limited social skills create parochial citizens, unaware and uninvolved in politics” (Lall, 2015, p. 73). However, research also indicates that people in developing countries are more politically aware than expected. “In Pakistan, despite the high awareness of rights, duties and political processes, political activity and action to assert the rights are low” (Lall, 2015, p. 74). The people “are parochial in action but not in their understanding” (Lall, 2015, p. 74). The results of the empirical study on Pakistani citizens by Lall (2015) concluded that the reason that despite having high political awareness, the people of Pakistan have low political involvement is the mistrust in the system due to high corruption. “It seems here that this disengagement from politics stems from the perception of the corrupt nature of all political leaders. It seems to indicate that these ... people would rather disengage entirely from what they perceived to be a ‘dirty’ system” (Lall, 2015, p. 84). Therefore, in Pakistan, people have a strong sense of national identity but there is a distance/gap between citizens and government who function separately from each other. This happens because of the lack of trust in government officials and institutions, poor governance, and the existence of alienation and resentment among citizens towards the government (Lall, 2015).

2.1. Trust in Government Agency

Scholars of public administration all around the world have been increasingly studying the concept of citizens’ trust in government institutions (Song and Lee, 2015). Levi and Stoker (2000) define trust as dependent upon “whether or not political authorities and institutions are performing in accordance with normative expectations held by the public” (p.498). Grimmelhuijsen and Knies (2015) links the concept of trust with trustworthiness and states that “trust in a government organization’ actually consists of the extent to which it is considered ‘worthy of trust’ by its citizens” (p.587). Citizens and government institutions have a trust-based relationship because of the existence of two basic conditions of trust i.e. risk and interdependence. There always remain uncertainty and a sense of risk among citizens regarding the government institution’s actual fulfillment of duties and responsibilities. Also, its position of power and authority adds to the risk as this power can be used positively or it can be abused as

well. Citizens commonly are not well aware or capable to evaluate the strategies behind governmental decisions. Therefore, they rely on these institutions to act in the best interest of the whole society (Houston and Lauren, 2013). Moreover, both governments and citizens are dependent upon each other for the effective and smooth functioning of the system, thus fulfilling the condition of interdependence. While citizens depend on government bodies to resolve social issues, make decisions, formulate policies, and to evaluate their effectiveness, they are also dependent on citizens to abide by the laws, follow the rules and regulations, and to cooperate with the state for its policies to work effectively (Grimmelikhuijsen and Knies, 2015).

Moving on to the perception of trustworthiness, there is a general agreement across all disciplines that it is a multidimensional concept. The three most common dimensions studied by a number of organizational trust scholars and which are also relevant to citizens' perception of government trustworthiness are competence, benevolence, and integrity (Grimmelikhuijsen and Meijer, 2011; Grimmelikhuijsen *et al.*, 2013; Porumbescu, 2016; Porumbescu, 2017). Perceived competence encompasses citizens' perception of government institutions' skills, abilities, expertise, and resources to make decisions, meet citizens' expectations, and fulfill their duties to society. While competence is a rational dimension of trust, the second dimension, perceived benevolence takes on an effective and ethical approach (Houston and Harding, 2013). It refers to the perception that government institutions sincerely care about the welfare of citizens, and works for their best interest without having any opportunistic motives of their own. Thirdly, perceived integrity or honesty is the belief that government institutions are sincere with the public, reveals the truth, and fulfill their promises and commitments. A higher evaluation of these dimensions of trustworthiness by citizens reflects a higher level of citizens' trust in government bodies (Grimmelikhuijsen and Meijer, 2011; Grimmelikhuijsen *et al.*, 2013; Porumbescu, 2016; Porumbescu, 2017).

The existence of trust enables citizens to conform with the rules, laws, and policies formulated by the government institutions which increases the acceptability of the government decisions forming a relationship of trust between citizens and government institutions (Im *et al.*, 2012; Park *et al.*, 2015; Houston and Harding, 2013; Porumbescu, 2017). However, many scholars and practitioners have been discussing the issue of mistrust in government officials and agencies and the possible causes of it have been identified to be poor economic performance, corruption, scandals, and published information such as WikiLeaks (Yildiz and Saylam, 2013; Gracia and Arino, 2015). Lack of trust results in alienation and distance between citizens and the government. Government institutions lose their legitimacy as well as compliance with policies and

collaboration by citizens which affects the functioning of an entire economy (Porumbescu, 2016). Since independence, Pakistan has faced challenges in achieving good governance in the country. Issues like political instability, inefficient policies, and corruption prevent the practice of good governance (Javaid, 2010; Sarfaraz, 2007). According to the Transparency International (TI) report (2019) of 180 countries, Pakistan ranked at 120 with a Corruption Perception Index (CPI) of 32 thus falling in the red zone. Therefore, the prevalence of such problems creates a gap/distance between citizens and government which adds to the lack of confidence and mistrust of citizens towards the government. In recent years, internet and communication technologies (ICTs) have paved ways for governments to directly reach and interact with citizens. E-governance is still at an early stage in Pakistan, the country which approved its first IT policy and action plan in the year 2000. It is majorly employed for semi-automation of service delivery and publicity and dissemination of updates (Sarfaraz, 2007). It is expected that e-government channels such as social media can bridge the communication gap and open ways of bi-directional communication which can facilitate in erasing misunderstandings and confusions that might exist in the minds of citizens regarding their government and leading towards the development of trust in the governmental institutions. Transparency and responsiveness are two of the pillars of good governance (Yousaf *et al.*, 2016) which can be enhanced by means of using effective communication tools such as social media platforms leading to the development of trust (Jameel *et al.*, 2019). "Through identifying the factors required to improve the trust, the government can improve the governance to meet the expectations of citizens, thus, can increase the citizens' trust to improve the legitimacy of government" (Yousaf *et al.*, 2016, p. 201). So, it is important to know by what means citizens' trust in government institutions can be reinstated and this study attempts to investigate this matter in the setting of social media platforms of a government agency in Pakistan. The studies regarding governance in the context of social media in Pakistan are sparse. The previous research that has considered the factors like trust in government have studied them in the context of e-government as a whole (Rehman, Esichaikul, and Kamal, 2012; Ahmad, Markkula, and Oivo, 2013). Therefore, this study aims to contribute to the literature by focusing specifically on trust development in the social media context.

2.2. Perceived Transparency and Trust

Porumbescu (2015) defines transparency as "the extent external stakeholders are afforded regular access to information about the way their public organizations operate" (p. 02). Ball (2009) provides a more comprehensive and broad understanding of the

concept by stating that government transparency exists “when organizations promote visible decision-making, are open to public input, allow the public the maximum choice of services, and work in cooperation with other organizations for common public purposes” (p. 302). Several authors have discussed the relationship between transparency and trust in government bodies (Bertot *et al.*, 2010; Song and Lee, 2015). According to Song and Lee (2015), citizens’ access to timely and updated information of a government institution on social media enhances their perception of transparency which contributes to the development of citizens’ trust in that institution. Thus, the transparency of decision processes diminishes the misunderstandings that citizens might have, which allows them to understand, accept, comply, and trust those decisions (Mettler, 2011; Cook *et al.*, 2010; Porumbescu, 2015; Buell *et al.*, 2018). Worthy (2013) assessed the effect of transparency on trust in a study conducted in the United Kingdom. The study concludes that not only the availability of information (i.e. transparency) but the medium through which information is accessed also influences citizens' trust. Tolbert and Mossberger (2006) conducted a study in the United States regarding the effects of e-government use on citizens’ trust in government. They found out that citizens’ access to relevant information through e-government websites makes them aware of the government's actions which are taken to address the concerns of the public resulting in enhancement of citizens’ trust in the government. Hence, their study supports the view that transparency contributes towards the enhancement of public trust in government institutions in a way that it enables citizens to assess and comprehend the several means through which these institutions attempt to ensure public welfare. Similarly, social media and e-government websites have been investigated by Porumbescu (2017) with regards to government transparency and their association with perceived government trustworthiness. He found out that citizens' use of government social media is positively associated with perceptions of trustworthiness, however, such association was not found in the case of e-government website use. In their study on the effects of different forms of transparency on citizens' perceptions of trustworthiness of South Korean and Dutch governments, Grimmelikhuijsen *et al.* (2013) report a somewhat opposing view. They found out that generally, transparency does not have any influence on trust in government. However, if the disclosed information is negative, it can have negative implications for citizens’ trust in government.

Besides improvements in the level of trust and confidence of citizens in government, transparency can benefit the government in other ways as well (Armstrong, 2011; Grimmelikhuijsen and Meijer, 2012; Porumbescu, 2015). Coglianese (2009) highlights that transparency facilitates a two-way flow of information between policymakers and

citizens regarding policy decisions. Moreover, the public's eye on government matters decreases the chance of careless mistakes or corruption by the officials due to the threat of being questioned. Therefore, transparency helps in the enhancement of efficiency in the accountability and financial management of the government. Additionally, transparency fosters greater legitimacy of governmental decisions which makes it easier for citizens to monitor, accept, and adopt those decisions and policies (Cucciniello *et al.*, 2017).

As discussed above, Pakistan has faced the problem of poor governance since it came into being in 1947. The prevalence of corruption and poor governance is also attributed to the absence of transparency and openness regarding public affairs i.e. absence of citizens' access to public information and records which restricts citizens as well as overall civil society to monitor and bring government institutions to account (Ali, 2006). "This lack of transparency leads to arbitrary and non-participatory decision-making, inefficient project execution, and rampant financial corruption in public bodies. The lack of transparency and access to information also contributes to the sustaining of excessive bureaucratic controls and non-functioning democratic institutions" (Ali, 2006, p.4). With increasing issues comes increasing criticism (Ali, 2006). Therefore, in response to rising criticism, the government of Pakistan is making efforts to adopt transparent practices. According to Pakistan vision 2025, the government aims to be more transparent, open, and responsive in order to improve governance (Planning Commission 2014). It has been established from the literature that e-government channels including social media platforms prove to be effective in terms of openness and easy accessibility of government information. Jameel *et al.* (2019) and Yousaf *et al.* (2016) in their studies reported that the factors of good governance including transparency positively influence the citizens' trust in the government in Pakistan. However, as for the investigation of the relationship between perceived transparency of government institutions and citizens' trust through online channels in the context of Pakistan, a sufficient amount of literature is not available. As already mentioned above, previous research in Pakistan has mainly focused on the role of trust in government in the adoption of e-government as a whole (Ahmad, Markkula, and Oivo, 2013, Rehman, Esichaikul, and Kamal, 2012; Rehman, Kamal, and Eschaikul, 2012). The development of citizens' trust in the context of social media remains an understudied area. Therefore, it is important to find out the relationship between the two in the social media context in Pakistan and the present study attempts to contribute to the gap in the literature in this regard.

H1: Perceived transparency of a government agency on social media is positively associated with citizens' trust in that agency.

2.3. Perceived Responsiveness and Trust

Hobolt and Klemmensen (2005) suggest that governments need to be responsive in order to retain the trust of their voters. Once elected, if government entities stop listening to the concerns of citizens, they may lose their trust and thus the chance to get reelected. According to Niemi *et al.* (1991), perceived government responsiveness is interrelated with citizens' trust in the political institutions and the whole political system. Similarly, Pinkleton *et al.* (2012) mention in their study the association of external efficacy with trust in government. When citizens perceive their government to be responsive to their needs and demands, they feel cared for and hence develop trust in the government. Furthermore, Esaiasson *et al.* (2016) suggest that the responsiveness of government helps in developing and maintaining citizen trust even when policy decisions made by the government are undesirable. This happens because the regular and timely responsiveness of the government entities ensures citizens that their views are taken into consideration while making a decision. Esaiasson *et al.* (2016) also mention in their study that responsiveness is not always about adopting the views of citizens in the policies, rather it also includes listening to the views and providing reasonable explanation if the citizens' opinions and ideas cannot be adopted. According to them, responsiveness encompasses three aspects. First, listen i.e. to become aware of the issues and concerns of citizens. Second, explain i.e. to provide justifications of the actions taken and policies formulated. Third, adapt i.e. to alter and adjust policies in accordance with the majority of citizens' views. If all of these aspects are taken care of, they can assist in the acceptance of governmental decisions. When the government listens and explains, the citizens get a feeling of being heard and their opinions being considered while formulating policies. Moreover, when the government adopts the opinions of the majority of citizens in its decisions, citizens find no further reason to protest and complain. Therefore, it can be said that when contacted by the citizens, the feedback provided by the government institutions, whether in terms of listening, explaining, or adapting, is regarded as responsiveness. Therefore, citizens find it easier to trust these institutions for making the right decisions that may be unwanted by them but are good for the whole society. The findings of the study conducted by Catterberg and Moreno (2006) in 80 different societies across the world report that among other factors, external efficacy also has a significant and positive influence on citizens' trust. Moreover, Porumbescu (2015) highlights the increased attention given by governments all over the world to e-government and e-participation initiatives. He suggests that governments

introduce such services to enhance citizens' perception of government responsiveness which ultimately is anticipated to bolster their level of trust in government institutions. Hence, from this discussion, it can be inferred that the perceived responsiveness of government institutions helps in the development of citizens' trust. However, the relationship between the perceived responsiveness and citizens' trust is still understudied as a sufficient amount of studies investigating the association between these two concepts, particularly in the context of social media, could not be found. The scholars have mainly studied each of these constructs separately or in relationship with other factors such as transparency, political participation, or e-government (Porumbescu, 2015; Porumbescu, 2017; DeMoor, 2015; Grimmelikhuijsen *et al.*, 2012). Their association with each other is investigated by only a few scholars over the past two decades (Catterberg and Moreno, 2006; Pinkleton *et al.*, 2012; Esaiasson *et al.*, 2016). In Pakistan, Jameel *et al.* (2019) and Yousaf *et al.* (2016) studied the influence of responsiveness, as a factor of good governance, on the citizens' trust in government and found a positive relationship between the two. However, as per the knowledge of the researchers, responsiveness in the online context such as social media platforms and its influence on citizen's trust has not been studied before in Pakistan, as previous studies in Pakistan have mainly focused on e-government adoption (Ahmad, Markkula, and Oivo, 2013, Rehman, Esichaikul, and Kamal, 2012; Rehman, Kamal, and Eschaikul, 2012). Therefore, keeping the insufficient body of literature in view, it is proposed that citizens' trust in government institutions in Pakistan is influenced by the perceived responsiveness of those institutions.

H2: Perceived responsiveness of a government agency on social media is positively associated with citizens' trust in that agency.

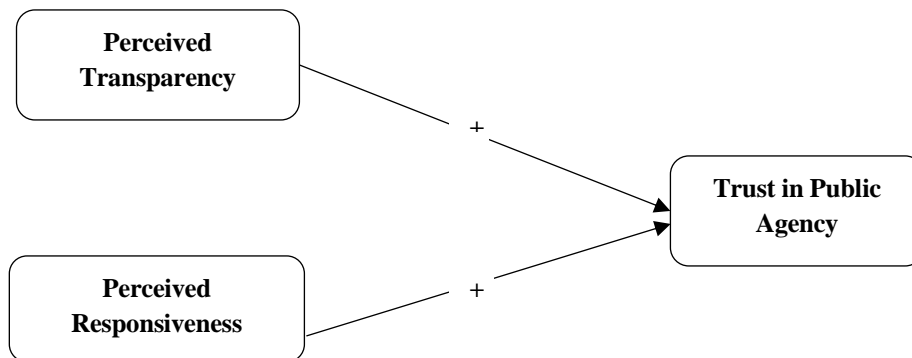


Figure 1: The Proposed Research Model

3. Methodology

The target population for the present study is the social media (Facebook and Twitter) followers of an agency i.e. Punjab Food Authority which regulates and monitors food and hygiene-related concerns within the Punjab province in Pakistan. As the matter of food and hygiene is important for all, therefore citizens are more active in their communication, inquiries, and are more concerned about the acquirement of food-related knowledge disseminated by the agency on social media. Also, the selection of this agency was considered appropriate due to their active usage of social media in terms of regular posts (more than 13-16 posts per week), comments, and responses to followers' inquiries. In Pakistan, very few agencies have a social media presence, and even among those agencies having social media accounts, not many of them actively use these platforms to disseminate updates and information. The social media accounts of Punjab Food Authority were comparatively active than other agencies who had social media presence. A random sampling method was used, and a sample was drawn out of a total of 318,454 combined followers of official Facebook and Twitter accounts of the agency. During the time period of April to September 2019, an online survey was conducted which used a five-point Likert scale (from "strongly disagree" to "strongly agree") to assess the perception of respondents regarding transparency and overall trust in the agency. For assessing perceptions about responsiveness, the items were negatively worded and therefore reverse coded (from "strongly agree" to "strongly disagree"). The followers were contacted at random by the social media team of PFA via means of direct messages. Approximately 500 followers were contacted, out of which 393 responses were collected (78.6% response rate) {a smaller version of this dataset was used to test another comprehensive model in Arshad and Khurram (2020)}. To measure these constructs, existing tools were adapted; for perceived transparency and responsiveness, the tools developed by Al-Aufi *et al.* (2017) were used, and for measuring trust in the agency a tool developed by Park *et al.* (2015) was used. Once the data was collected, it was then screened for any missing values or any other problems. After the assurance, the data was then taken up for analysis. Table 1 outlines the demographics characteristics of the study participants.

Covariance based structural equation modeling (CB-SEM) technique was applied using AMOS 20 software (Gefen *et al.*, 2011). A two-step approach was used for analysis in which at the first step, confirmatory factor analysis was conducted in order to assess the validity of measurement items, and afterward, the structural model was tested to determine path coefficients (Hair *et al.*, 2014). The purpose of using CB-SEM

is that the hypotheses in this study are developed through existing literature (Hair *et al.*, 2017) i.e. the aim was to test the theory instead of developing a new one. Maximum Likelihood Estimation (MLE) technique is used as Hair *et al.* (2014) suggests that for a large sample (more than 300), the problem of multivariate non-normality does not hold.

Table 1: Characteristics of participants

Characteristic	Category	Percent (%)
Gender	Male	73.5%
	Female	26.5%
Age (years)	18-21	10.4%
	22-25	29.0%
	26-29	22.9%
	30-33	17.3%
	34-37	7.1%
	Above 37	13.4%
Education Level	High School	25.7%
	Graduation	37.9%
	Post-Graduation	36.4%
N= 393		

4. Results

4.1. Measurement Model Validation

Prior to testing a structural model, the validation of a measurement model is essential which is achieved by performing confirmatory factor analysis. This step allows filtering the model of any items with poor factor loadings. This process helps in identifying the best indicators of latent constructs which can be then further taken into the structural model (Schreiber *et al.*, 2006). Therefore, the three items demonstrating poor factor loadings (<0.6) with their latent constructs were eradicated from further analysis (Field, 2005) i.e. 1 item from perceived transparency (PT4 = 0.580), 1 item from perceived responsiveness (PR1 = 0.528), 1 item from trust in agency (TA4 = 0.582) (See Table 2.).

Table 2: Descriptive statistics and factor loadings

Construct	Item Code	Statements	Factor Loading
Perceived Transparency (M= 3.91, SD = 0.765, α = 0.786)	PT1	“I follow government news on social media because of its clarity”	0.724
	PT2	“I make sure to follow the government (agency) on social media because I believe it provides accurate information.”	0.746
	PT3	“I believe that government (agency/official) provide a satisfactory level of transparency on social media.”	0.748

	PT4	"I believe that transparency between citizens and the government is obtainable through social media."	0.580*
Trust in Public Institution (M= 4.11, SD = 0.746, α = 0.846)	TA1	"I have confidence in the agency and its service."	0.800
	TA2	"I have confidence in the contents that the agency provides on its social media (Facebook/Twitter)."	0.857
	TA3	"(I feel that) the agency's social media (Facebook/Twitter) provides better government services to contacting citizens"	0.759
	TA4	"The agency's social media (Facebook/Twitter) promoted me to have a positive outlook towards government authorities."	0.582*
Perceived Responsiveness (M= 3.23, SD = 0.959, α = 0.879)	PR1	"This government agency withdraws (escapes/ fails to respond) when there is an increase in the number of inquiries addressed on social media."	0.528*
	PR2	"This government agency only clarifies its position on social media without following-up subsequent posts (or any comments of people)."	0.719
	PR3	"This government agency does not respond to inquiries addressed on social media."	0.844
	PR4	"This government agency is not following up on citizen complaints and concerns on social media."	0.826
	PR5	"There is no specialized employee or representative authorized to respond to what is posted by the public on social media."	0.736
	PR6	"The government does not take real actions in practice that reflects what has been addressed by the public on social media."	0.686

Note: *Item eliminated as factor loading was lower than 0.6. M = Mean, SD = Standard deviation, and α = Cronbach's alpha. Mean, Standard deviation, and Cronbach alpha are calculated after the elimination of items with poor loadings.

The study utilized multiple tests to assess the reliability and validity of the measurement model i.e. tests of convergent and discriminant validity. Further, the overall fitness of the measurement model was also assessed to inspect if the measurement model fits the data. All the threshold values followed in the study are provided in Table 3. It can be seen from the table that the values measuring convergent

validity, discriminant validity and the overall model fit are within the suggested ranges. Therefore, the measurement model appears to be reliable and valid.

Table 3: Construct validity, and model fit indices

Measure	Threshold values	Result		
		Perceived transparency	Perceived responsiveness	Trust in public institution
Convergent validity				
Factor Loadings	> 0.6 ¹	Yes	Yes	Yes
Composite Reliability	> 0.7 ^{1,2,3}	0.787	0.874	0.851
Average Variance Extracted	> 0.5 ^{3,4}	0.553	0.584	0.657
Discriminant validity				
Maximum Shared Variance	MSV < AVE ⁵	0.601 (No)	0.036 (Yes)	0.601 (Yes)
Correlation among constructs	R < \sqrt{AVE} ⁵	No	Yes	Yes
Model fit		Measurement model	Structural model	
Normed χ^2 (χ^2/df)	< 3 ³	2.368	2.371	
GFI	> 0.90 ³	0.957	0.956	
CFI	> 0.94 ⁶	0.974	0.973	
TLI	> 0.90 ³	0.964	0.964	
SRMR	< 0.05 ^{3,6}	0.043	0.058	
RMSEA	< 0.08 ^{3,6}	0.059	0.059	

Note: R = correlation coefficient; GFI = Goodness-of-Fit Index; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardized Root Mean Square Residual; RMSEA = Root Mean Square Error of Approximation.

¹Bagozzi and Yi (1988), ²Byrne (2001), ³Hair *et al.* (2006), ⁴Fornell and Larcker (1981), ⁵Fornell *et al.* (2009), and ⁶Hooper *et al.* (2008).

Table 4: Fornell and Larcker criterion

Variables	Perceived responsiveness	Perceived transparency	Trust in public institution
Perceived responsiveness	0.764		
Perceived transparency	0.096	0.743	
Trust in public institution	0.190	0.775	0.811

Note: The bold values in diagonal depict the square root of the AVE of each construct. The other values depict correlation among constructs which are statistically significant at $p < 0.01$, two-tailed.

However, the discriminant validity indices of perceived transparency do not meet the suggested criteria. It can be seen from Table 4 that the correlation of perceived transparency with trust in public institutions is higher than its AVE. It should be noted that "discrimination is harder to demonstrate when two or more constructs should be highly correlated, yet distinct, according to the theory" (Bagozzi and Yi, 2011, p.18), which might be the cause as these concepts are generally intermixed in governance

literature. Hence, to further ensure that there is a distinction between these two constructs, another method (Anderson and Gerbing, 1988) was utilized in which the correlation between the two variables was constrained to unity in one model and then it was compared with the model in which the correlation was allowed to be freely estimated. The χ^2 difference test between constrained and unconstrained models was significant and there was a substantial improvement in model fit indices which proves the discrimination of the two constructs (See Table 5).

Table 5: Discriminant Validity (constrained and unconstrained model comparison – Perceived Transparency and Trust in Public Institution)

Model	GFI	CFI	TLI	χ^2 (df)	$\Delta\chi^2$ (df =3)
Constrained	.849	.823	.759	201.009 (11)	-
Unconstrained	.976	.980	.963	29.352 (8)	171.657*

Note: * $p = 0.00$.

4.2. Assessment of Structural Relationships

After the validation of the measurement model, the structural model was assessed to test the hypothesized relationships (Hair *et al.*, 2014). To test the overall validity of the structural model, model fit was assessed, and to test the strength, direction, and significance of the relationships, the parameter estimates along with p values were considered.

The model fit of the structural model was assessed in the same manner as the measurement model and the fit indices of the structural model were evaluated on the same criteria as mentioned in Table 3. Table 3 outlines the fit indices of the structural model and it can be seen that all of the relevant indices are within the suggested ranges.

Prior to the testing of hypotheses, it was ensured that the issue of multicollinearity does not exist between independent variables. The analysis showed that the Variable Inflation Factor (VIF =1.010) was smaller than the accepted maximum value of 5 and the value tolerance (0.990) was above the accepted minimum value of 0.20 (Hair *et al.*, 2010). Also, the variables were not highly correlated (> 0.80) which further ensures the absence of multicollinearity (Berry and Feldman, 1985). Therefore, it was safe to proceed and test the hypotheses.

Next, the parameter estimates were examined to test the hypotheses. The results of path analysis (see Figure 2) reveal that the followers' perception regarding transparency of the agency on social media is positively related to their trust in the agency ($\beta = .769$, $p = .000$, two-tailed), which supports H1 of the study. Also, a positive but a relatively weak relationship exists between followers' perception regarding the agency's

responsiveness on social media and their trust in the agency ($\beta = .134, p = .003$, two-tailed), which provides evidence for H2 of the study. Together these two variables explain 61% variance ($R^2 = 0.61$) in the dependent variable i.e. trust. Figure 2 illustrates the final structural model along with standardized parameter estimates.

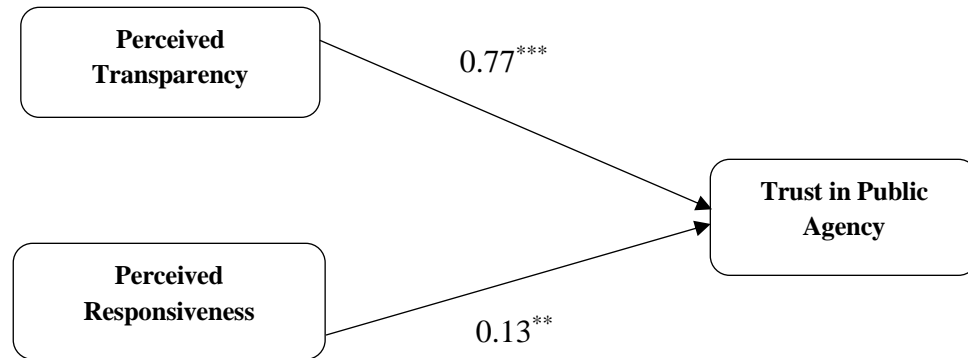


Figure 2: The Final Structural Model with Standardized Path Estimates

Note: *** $p < 0.01$; ** $p < 0.05$

5. Discussion and Conclusion

The present study contributes to the literature as previously the studies in Pakistan have mainly focused on the adoption of e-government as a whole (Ahmad, Markkula, and Oivo, 2013, Rehman, Esichaikul, and Kamal, 2012; Rehman, Kamal, and Eschaikul, 2012) and therefore, trust development in the context of social media remains understudied. The findings of the study reveal that the heightened perception of citizens of Pakistan related to the transparency of public agency on social media facilitates the development of citizens' trust in the agency. This finding is consistent with the claims made in the previous studies on developed as well as developing countries (Song and Lee, 2015; Grimmelikhuijsen *et al.*, 2013; Halachmi and Greiling, 2013; Buell *et al.*, 2018). The basic idea behind this relationship is that transparency of information disseminated by government institutions on social media allows citizens to comprehend the context, procedures, and reasons behind the decisions taken by the government and to observe their operations and performance leading to enhanced confidence and trust in those institutions. Therefore, it can be stated that the more is the adoption of transparent practices by the government institutions, the more would be the trust of citizens they gain. When government institutions become transparent in their communication with citizens, the citizens feel closer and more connected to these institutions which develop their positive perspective about institutions' trustworthiness. Government institutions in Pakistan need to realize the effectiveness of this practice and

move towards its active implementation to restore citizen trust which is important to ensure and maintain efficient governance in the country (Yousaf *et al.*, 2016). One important aspect about transparency has been discussed in the literature that the information which is disclosed in order to be transparent will only be effective if that information is intelligible and comprehensible by the general public (Porumbescu, 2015), otherwise, the provided information will not result in any positive outcomes rather it will create more confusions. Reduction in the communication gap and elimination of misconceptions existing in the minds of citizens not only develops trust but it can also greatly and positively impact the state of the relationship between citizens and government entities (Fairbanks *et al.*, 2007). On the other hand, the results also show that the perception of citizens of Pakistan about public institution's responsiveness also has positive implications for the development of trust. The finding of this study is in line with the few studies that have tested the association (Niemi *et al.*, 1991; Catterberg and Moreno, 2006; Pinkleton *et al.*, 2012; Esaiasson *et al.*, 2016). When citizens observe that the government institution is responsive to the comments and suggestions of the public on social media, they develop heightened perceptions about the responsiveness of the institution to the issues and concerns of citizens. This way citizens feel being taken care of and thus find it easier to trust the institution. However, it can be seen from the results that the effect size of this relationship is quite small, which means that responsiveness is not as important or significant as transparency in predicting citizens' trust in the public institutions in Pakistan. This shows that responsiveness is secondary to transparency when it comes to earning the trust of the citizens of Pakistan. While the importance of responsiveness cannot be ignored, government institutions in Pakistan first and foremost need to make efforts to adopt transparent practices through social media for it to become an effective tool for the development of trust.

Unlike developed countries, developing countries like Pakistan have many challenges, problems, and constraints, therefore it is not realistic for such countries to address all of them at once to gain citizens' trust (Kim, 2009). While aiming for good governance is an idealistic approach, it may be too ambitious for developing countries (Andrews, 2010). Research indicates that developing countries should instead set priorities and aim for "good enough governance" or "incremental governance" which includes feasible, realistic, and achievable goal setting (Kim, 2010). "Its core elements are focus, what needs to be done; sequencing, when it needs to be done; approach, how it needs to be done; selectivity, what is essential and what is not; and pragmatism, what is feasible and what is not (Grindle 2004; 2007)" (Kim, 2010, p. 275). Further Kim

(2010) also states that “each developing country needs to find their own solution based on their individual importance of need. A localized solution that draws on localized knowledge and regional experience. Each country should build their own best fit and with it take pride and ownership in their achievement, and not solely rely on imported (or imitated) international trends or donor-driven best practices” (p. 292).

Therefore, to sum up, government institutions in developing countries like Pakistan need to set priorities and set achievable incremental goals rather than imitating the practices of developed countries. The use of ICT channels like social media is a cost-effective and convenient method to reach citizens and to regain their trust by means of simple acts which can lead to heightened perceptions about good governance indicators like transparency and responsiveness. For a developing country like Pakistan, such incremental achievements can be much more significant than for a developed country as it shows that the country is moving up the ladder, even if at a slow but steady pace.

5.1. Conclusion

The study aimed to analyze the relationship of citizens' perceptions about transparency and responsiveness of a Pakistani public institution on social media with their trust in that institution. The survey data was collected from 393 social media followers of an agency in Pakistan and the structural equation modeling technique was employed to analyze the data. The findings reveal that the perceived transparency of the agency on social media is positively associated with the development of followers' trust in the agency. Also, the perceived responsiveness of the agency was found to be a significant predictor of trust but not as strong as transparency.

This study raises an important issue that by the use of social media platforms, government agencies in Pakistan can effectively and directly communicate with citizens which can facilitate the eradication of misunderstandings and confusions, thus leading to a more conducive environment for restoration of trust. The study contributes to the body of knowledge as in Pakistan the usage of social media for governmental communication is at its initial stage. Therefore, the study provides empirical evidence of the benefits of effectively utilizing this tool to restore the lost trust of the public in the government institutions in Pakistan. Citizens' access to timely, updated, and transparent information regarding the operations and functioning of Pakistani government institutions on social media and the institutions' responsiveness to the comments, suggestions, and complaints of the public on social media can aid in the development of their trust.

5.2. Future Directions

Every research has some shortcomings and that creates a gap and opportunity for future researchers to build on and improve the existing body of knowledge. Based on this study, a few recommendations can be made for future researchers. This study was focused on a single agency, in future studies, the data from followers of multiple government institutions can be collected to assess whether the determinants of trust on social media platforms are the same for most institutions or not. Future research can be conducted by considering other than online contextual settings and investigating the factors which contribute to the development of citizens' trust in public institutions.

Trust in the communication channel i.e. social media platforms and its impact on the overall trust in the institution can be tested. This study can also be replicated by employing qualitative methods that allow in-depth analysis of data and the emergence of interesting and useful information.

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