InterPARES Trust

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Social Media and Trust in Government (#05)

1. Introduction

Participating in social media content creation can be a force that unites oppressed citizens. Consider the so-called "Facebook Revolution" that occurred during the last days of Egyptian President Hosni Mubarak's regime. Wael Ghonim started a Facebook page to commemorate a beaten and murdered Egyptian student, a student beaten by the Egyptian police for protesting. Three months later Ghonim's page had 250,000 followers. The growing online fervor eventually spilled into the streets, resulting in massive protests in Tahrir Square that eventually led to Mubarak's resignation (Iman 2011). What happened was a revolution of sorts. Mubarak could no longer suppress social media content at the local level; it was as Buhl (2011) mentioned, "the entire Internet seemed to become an [un]controllable threat to the governmental machinery of power" (p. 195). Brought on by a Facebook e-revolution, history might label this revolution as the beginning of an Arab Spring—across the Middle East citizens rose in protest against their governments, governments that over decades had fostered deep-rooted resentment and mistrust.

Although sensational in its own right, the Facebook e-revolution illustrates how mistrust in government can manifest itself in our globally networked society. Politics aside, the Arab Spring represents a breakdown in social capital that existed prior to Mubarak's removal from office. Facebook, Twitter and other social media applications can potentially provide representative voices to citizens who would otherwise not have one. The Arab Spring is representative of how groups of social media-connected citizens might potentially bypass government rule. Suppressing these types of connections are problematic because the delivery methods are information communication technologies (ICTs) delivered through the public internet. With the exception of just a few countries (North Korea to name one), the internet in some form is accessible the world over. By default, so, too, is social media participation. Although we saw with the Arab Spring how social media illuminates mistrust in government, our question is, "Can social media participation, through e-government, encourage and/or build trust?" Before pursuing any attempt to answer this question, we must first understand the social trust landscape that surrounds the citizen/government relationship.

Pew Research for the People and the press started looking at trust in government in 1958. In that year, *Pew* cites an American National Election Study that found 73% of Americans trusted their government. Trust in government increased slightly until the mid-sixties. Then the turmoil of Vietnam and the Counterculture revolution prompted a steady decline in trust. In 2013 *Pew* found trust in government at 19%. As the research indicates, public trust in government declines after a controversial or scandalous action by the U. S. government. Canadian measurements show similar results. According to the 2014 Edelman Trust Barometer, government experienced the largest decline in trust of any institution in 2013. The online survey of 33,000 respondents in

27 countries revealed globally that trust in government fell four points to an historic low of 44 percent. The most significant drops were in the U.S., France, and Hong Kong, where levels of trust fell below 50 percent (Edelman, 2014).

Does the decline in public trust in government correlate with the volatile electronic information revolution? Is trust an antecedent for a stable relationship between citizens and government?

2. Problem Statement

Globally, trust in government fell 14% between 2013 and 2014 to an historic low of 44%; however, trust in information shared through social media rose to 47%. Question one: Can social media be used by government to increase citizen trust? Question two: Is there a statistically significant relationship between trust in government and social media initiatives? If so, what can we learn about the administration of social media that results in an increase of trust in government that can be shared through guidelines and case studies with public administrators to improve their social media strategies and increase social capital? Before we look at social capital as it relates to trust or mistrust in government, we need a deeper understanding of the actions and behaviors citizens take, both individually and in group settings, that demonstrate trust in government.

3. Working Parameters of Trust

In its oldest form, trust is a form of faith; a broad belief in a personal well-being that oftentimes bypasses traditional scientific reason (Misztal, 1996). In Homer's *Odyssey* Penelope's faith that her husband Odysseus would eventually return to her kept suitors away for twenty years. In the western world, faith in God guided humans through centuries of darkness known as the middle ages. Before the age of scientific reason, faith rarely existed outside of religious practice. Today's definition of faith is virtually synonymous with trust. However, there are subtle differences that speak to the complex nature of mutual trust and interpersonal relationships between people.

Oxford Dictionaries defines **Faith** as "complete trust or confidence in someone or something." What does "complete trust" mean? *Oxford Dictionaries* defines **trust** as a "firm belief in the reliability, truth, ability, or strength of someone or something." Conversely, what does "firm belief" mean? At least within the *Oxford Dictionaries,* faith involves trust, while trust involves belief. In other words, faith is complete trust and trust is a firm belief. Whereas faith is most times concrete and immovable, trust can shift over time into distrust, and then back to trust.

In a broad sense, trust is a conceptual application of a belief system based on reciprocity and a "willingness to be vulnerable." Valenzuela, Park, and Kee (2009) defined trust as "a belief that others will not knowingly or willingly harm us" (p. 878). Looking at definitions of trust across multiple disciplines, Rousseau, Sitkin, Burt, and Camerer (1998) found "confident expectations and a willingness to be vulnerable are critical components of all definitions of trust" (p. 394). Killerby (2005) noted that this willingness to be vulnerable is particularly present in situations where trust in government requires the democratic process (p. 11). This sets up a scenario of separate qualifications of trust: specifically, do we trust each other in the same way we trust our government? This literature review seeks correlates between a trust belief system in government

institutions in Canada and the United States, and the volatile world of big unstructured data in and surrounding social media applications such as Twitter and Facebook.

A deeper understanding of how and why people trust their government requires that we identify individual sociological and behavioral components of citizen/government relationships. Firstly, as with any relationship, there are sociological components that act as common threads tying the components of these relationships together. An example of this is an interpersonal trust relationship between two or more individuals that mutually trust, whether through positive expectations or beliefs (Misztal, 1996; Chappell & Funk, 2010; Delgado-Márquez, Hurtado-Torres, & Aragón-Correa, 2013). Secondly, because a primary reason for government is governance, the information provided must be reliable, authentic, and transparent (Relly & Sabharwal 2009). This is a challenge with big unstructured data because it is largely uncontrolled by anyone, and in some cases ends up an anarchic motivating force. Thirdly, because many of today's information exchange systems are internet fueled social networking sites, the mode of delivery must be trustworthy. With some answers found within the study of human-computer interactions (March & Dibbens, 2003), the trustworthiness of information delivered through social media networks requires asking questions such as: why do people trust electronic information? Although trust in electronic information is a broad subject with several intersecting domains, our point here is the discovery of reasons why citizens trust government in general, and to a specific point, government provided electronic information. Understanding these reasons will allow us insights into whether or not social media content will support social capital between a government and the citizens it serves.

3.1 Types of Trust

Identifying the sociological components of trust relationships requires a separation of the different types of trust users apply while in group settings. Investigating the trust bonds between governments and citizens, Thomas (1998) identified three types of trust, mutual, social, and fiduciary. Kelton, Fleischmann, and Wallace (2008) listed four types of trust: individual, interpersonal, relational, and societal (p. 364). At first glance these seven types of trust seem ambiguous. However, with some alignment among common social behaviors, and an identification of processes that encourage trust bonds among individuals, the list identified by Kelton, Fleischmann, and Wallace is reconcilable with Thomas's three types.

Mutual trust includes sharing of common beliefs and expectations about an expected outcome (Misztal, 1996, p. 19). Mutual trust involves decision-making that reflects our individual and social beliefs, and then matching them with others that trust in the same way. Therefore, defining mutual trust among social groups involves identifying specific attributes of an interpersonal trust belief system. Mutual trust is bi-directional, meaning the mechanisms that support or breakdown trust between partners flow back and forth such that the relationship is affected by positive or negative outcomes. Another important element of mutual trust is that it leads to interpersonal trust, which broadly defined means there is an expectation that the result of a request will be a positive outcome (Rotter, 1980; Lewicki, Tomlinson, & Gillespie, 2006).

Social trust is the mechanism for the exchange of mutual trust in a group setting. This leads to sharing interpersonal trust bound within the entire group rather than exclusively with our friends and family. Given enough time, interpersonal trust bonds lead to social trust. Delhey and Newton

(2003), studied how social trust developed in seven European societies. They concluded that "societal conditions, social networks, and success and well-being" are three primary factors to consider when measuring trust. (p. 109). Additionally, Delhey and Newton concluded: "The more people believe that others are to be trusted, the more they will act in a trustworthy manner themselves, and the more they will reinforce the virtual circle of trust" (p. 112). A social network facilitates the progression from mutual trust to social trust through interpersonal trust relationships. Interpretation of this logic sees social trust as a means for reinforcing social capital. Siegrist, Cvetkovich, and Roth (2000) interpret social trust as a "willingness to rely on those who have the responsibility for making decisions and taking actions" (p. 354). Understanding how progressing from mutual trust to social trust affects social capital needs further unpacking. Remember the "virtual circle of trust." Later in this literature review it will become clearer what this has to do with social media content and e-government. For now, let us briefly see this circle as knowledge sharing.

Uniting around a common outcome such as uncertainty fosters greater trust among members of that group (Hsu, Liu, & Lee. 2010, p. 300). Uncertainty about actions the government might take to protect a citizen's privacy, for instance, could explain some of the steady decline in trust in government over the last two generations. This is a limited approach, and does not explain how and why citizens trust their government.

Investigating trust variables present in citizen/government relationships, Killerby (2005) used factor analysis and principal component analysis methods to measure trust in government. Killerby found that "trust in government is a form of fiduciary trust between society and government" (p. 1). A main variable of fiduciary trust is there is already and established motivation that exists without any reciprocal trust behaviors between the partners. Thomas (1998) puts fiduciary trust in a societal trust context. With fiduciary trust, the principle trusts the agent because of an established professional, moral, and/or civic relationship. An individual can trust an institution, but the institution does not need to trust the individual for the relationship to exist. For example, we trust that our doctor will give us advice that keeps us healthy. Another example of this is the citizen/government relationship. The agent understands the principle can take some sort of court action (with government the action is an election) that may lead to sanction or other punishment if the principle is unhappy with the result.

We identified knowledge sharing as one-way fiduciary trust is supported or rejected by socially tied groups that trust each other. However, the connections between interpersonal trust and fiduciary trust are still unclear. Kelton, Fleischmann, and Wallace framed four types of trust in a progression from individual to group:

> Trust has been studied on four levels: individual, as a personality trait; interpersonal, as a social tie directed from one actor to another; relational, as an emergent property of a mutual relationship; and societal, as a feature of a community as a whole. Thus, the individual level simply addresses the statement, "I trust," the interpersonal level extends this to the statement, "I trust you," the relational level broadens further to, "You and I trust each other," and the societal level expands it finally to, "We all trust." (p. 364).

Seen through a progressive lens, Thomas's three types of trust align with the four types of trust

outlined by Kelton, Fleischmann, and Wallace. For instance, Thomas defined social trust by putting actions of the partners within a social system, where "social factors do more than constrain the set of choices available to otherwise self-interested individuals; they shape motives and beliefs as well" (p. 175). Thomas implies here that motives and beliefs expressed in social networks leads to social capital. Mutually trusting individuals within group settings shape the social capital of the group.

Aligned with Thomas's three forms of trust, Misztal (1996) distinguished trust as having three possible approaches. Misztal based the first approach on internal emotions, values, and feelings where individuals have personal reasons for trusting. This is a description of how mutual trust leads to interpersonal trust. Second, socially connected groups have a sense of group trust that acts as a social bounding agent. Misztal refers to this as a "lubricant of cooperation" (p. 77). The bounding agent is social trust, which in turn leads to social capital. Third, according to Misztal, trust is "a valued public good sustained by actions of members of a given society" (p. 14). This third element is quite simply fiduciary trust and societal trust with the interpersonal trust relations coming from mutual trust. While defining trust in government within the aforementioned progression from individual to societal trust introduces clarity to how social media participation affects trust in government, questions remain. For instance, in today's cyclical world of information exchange and new uses of big data, what variables within mutual and social trust support fiduciary trust?

One way of parsing these variables is identification of individual and group behaviors that co-exist with trust partnerships. Killerby discovered confidence in government is an indicator of trust, and that "trust in government is a poor indicator of the level of social trust in a given country" (p. 4). This is primarily because fiduciary trust is not cyclical to a group but rather could be cyclical to an individual's confidence in their government. Nielsen (2004) introduced the term "organizational trust," claiming "individuals act within institutional and social contexts" (p. 241). This might be a form fiduciary-trust-peer-pressure. In this context, individuals who exhibit both mutual and social trusts have intentions to comply with the group's moral actions. Therefore, organizational expectation is built into the fiduciary trust relationship. This is a push-pull example in which an individual has the intention and desire to belong to the group and will participate in the socialization of the organization's social capital. Thomas (1998) supports this view, explaining, "trust exists along a continuum: the more we calculate the intentions of others, expect something in return, and subsequently monitor their performance, the less we are exhibiting trust. Similarly, the more others take our interests into account, putting their own interests aside in the process, the more they are worthy of our trust" (p. 170). Interpretation of Thomas's view is that the less an individual exhibits mutual trust through interpersonal trust relationships among the group, the more the individual trusts the group. Therefore, the willingness to trust requires confidence. In fiduciary and societal trust relationships willingness leads to intention. The connection here is that citizens expect that information provided to them by government is trust worthy. If the information is deemed untrustworthy this becomes a center point for lack of trust in fiduciary trust relationships. A key point then is the quality of information delivered to citizens through the usual fiduciary trust relationships.

Looking at trust from the perspective of the information deliverer, McKnight and Chervany

(2001), defined trust through the context of intention where "one is willing to depend, or intends to depend, on the other party with a feeling of relative security, in spite of lack of control over that party, and even though negative consequences are possible" (p. 34). This interaction between the intention of the deliverer, and the expectation of the receiver of the information or service is the crux of our investigation. Whereas mutual trust within groups develops because of interpersonal relationships, and social trust develops because of common goals and perceptions of outcomes, fiduciary trust places heavy influence on the information at the individual level because many of the social variables applicable to mutual and social trust are not present in government citizen relationships. The catalyst for the development of fiduciary trust is the information or services the government provides or intends to provide as in election promises.

To this point, we have only looked at the social elements surrounding trust. The mechanism for the exchange of fiduciary trust is the exchange of information (or the intent) in a social network. This implies that fiduciary trust is already present. Depending on the extent that mutual trust interpersonal relationships influence social trust, fiduciary trust is strengthened or weakened by social capital or trust deficit. Identifying variables partially explains two of four central theories that run throughout this review—social capital theory and social network theory. Although the other two theories, behavioral trust theory and resource based theory have connecting tangents that can partially explain their relevance to our research, they are best defined within two primary elements of a fiduciary trust relationship—trust in information and trust in government.

3.2 Trust in Information

History and archivist scholars understand that the implications of the development of the printing press meant that citizens who did not previously have access to information could undergo a process of learning to read that ultimately lead to reading and interpreting information without needing despotic interpretation. This coupled with the Protestant Reformation—a rejection of Catholic doctrine—contributed to the rise of individualism and enlightened thought. Then as the English Industrial, French, and American Revolutions ushered in Western Liberalism, a new form of representative democracy emerged in the American Colonies. Putting aside the French and English contributions, emerging American democracy was fueled by information exchanges among social groups in coffee houses and pubs. Out of these social settings came the hundreds of newspapers that informed citizens throughout the Colonies. Newspapers and the social setting they created fueled the American Revolutionary War. Books, newspapers, pamphlets, and other printed material became the primary vehicle for delivering information to citizens, and it remained as such until the early twentieth century ushered in moving pictures and radio.

Today, a large section of government related information resides and flows in digital form. Consequently, the context in which digital information flows is dependent on the delivery method. Whereas with print media we see, feel and in some cases smell authenticity, digital information lacks these sense triggers. This sets up a resounding caution. Rowley and Johnson (2010) highlighted a connection between trust and the context in which information is provided. They asserted that "trust" as a concept might become convoluted in the digital world because it is often used interchangeably with other concepts such as credibility, reliability, and confidence (p. 496). Relying on digital information simply because it is digital is dangerous. However, we can use this interchangeability to our advantage. In the information management disciplines, the

meaning of authentic information is the same across all mediums of storage and access. Therefore, highlighting the connection between credibility and trust in digital realms is prudent. Trust in digital information has as much if not more to do with the mode of delivery.

Many of today's information professionals are formidable authenticators of digital information, and can therefore act as trust facilitators. This facilitation can be strengthened further if the trust is directed at reputable providers. Kelton, Fleischmann, and Wallace (2008) asserted, "trust plays a key role as a mediating variable between information quality and information usage" (p. 363). Granted this seems like a logical statement that needs little peer review. However, when seen in the context of trusting information and the modes by which information is delivered, trust as a "mediating variable" becomes somewhat ambiguous. Information management professionals overcome this ambiguity with best practices such as *The Principles,* and by relying on standards such as ISO 15489.

Another way of overcoming this ambiguity is looking at trust development over time. Kelton, Fleischmann, and Wallace stated, "Trust does not flow from a trustor to a trustee; rather, it emerges from their interaction over time" (p. 365). (The declining poll numbers identified at the beginning of this review support this). If we look at the progression of technology use over the last generation and a half, we see it as a slow but steady acceptance of the validity of information or services provided through online web stores like Amazon. Indeed, Amazon Prime members are familiar and comfortable trusting that two-day shipping means just that. Amazon and other companies such as Google and Microsoft contribute to our confidence in human-computer interactions. In sum, modern information management professionals can facilitate greater trust in digital information, and can therefore facilitate greater trust in fiduciary trust relationship. What remains is a process for delivering authentic information to citizens using social media to express mutual, interpersonal, societal, and fiduciary trust relationships.

Hertzum et al (2002) transform the assessment of information quality into a progressive two-step process. If information is already perceived as being high quality, the accessibility of information contributes to this perception. Accordingly, "The first step is necessary because the quality of the information does not reside in the information as a label that can be read but has to be established actively by the individual person. Establishing the perceived quality of a source or piece of information is essentially a matter of establishing to what extent one is willing to place trust in it" (p. 577). For instance, academic researchers, who through scholarship and training know the value of the term peer-reviewed, search for peer-reviewed articles. This process needs attributes such as reputation and intrinsic value of the articles for credibility. Therefore, the first step in the process is authentication of digital information by an information professional.

3.3 Trust in Digital Information

For the last decade or so the medical records industry has been grappling with the credibility and privacy of digital medical records. Using a 2007 National Cancer Institute study of 7, 674 adults across all demographics and income disparities, Ye (2010) hypothesized that people who visit social networking sites trust digital medical records more than those that do not visit social networking sites. Using regression analysis, Ye found no direct correlation. However, the analysis showed a positive correlation between "information from government health agencies"

and "trust in online health information" (p. 40). This suggests that information from legitimate professional sources carries with it some implied trust. For example, a researcher should trust a peer-reviewed article more than one that is not. Another item of note from this study is that trust in online health information is positively correlated with the information being easily understood. Looking at the quality of online health information, Stvilia, Mon, and Yi (2009) found that 80% look for quality assurance markers on Web pages (p. 1786). Carrying this over into our research would mean a study of the accuracy of information posted on official government social media sites. Nonetheless, the digital mode of information delivery becomes as important as the information.

March and Dibbens (2003) hypothesized that user-friendly human-computer interfaces lead to better trust in the overall system. Additionally, March and Dibbens surmise that in trust that occurs when interacting with a system such as a Website "trust becomes a two-way street—user judges system via trust (and other measures), and system considers user in terms of trust" (p. 482). Judiciously speaking, this same logic is applicable to all human-computer interactions. Can we imply, then, that the success of today's social media platforms means there is at least some trust already present? DiMaggio, Hargittai, and Neumann (2001) noted that the "Internet is unique because it integrates both different modalities of communication (reciprocal interaction, broadcasting, individual reference-searching, group discussion, person/machine interaction) and different kinds of content (text, video, visual images, audio) in a single medium" (p. 308). If seen in the same threads as societal and fiduciary trusts, the technology that delivers the information is an inescapable variable. For this reason, trust surrounding digital information delivered on social media platforms becomes a cultural resource.

Volken (2002) noted, "trust as a cultural resource raises the overall innovative capacity of a social system, since it allows economic and also political agents to take advantage of their extended potential for action" (para. 6). If we apply this to social media, Volken suggests that socio-economic and socio-institutional processes accelerate the popularity of social media as a technological advancement. Therefore, we can imply that the success of today's social media platforms means there is at least some trust already present. Although some of this trust might be fiduciary-based, existing trust seems more related to trust in technology that in government. At this point the obvious question is: can this trust in technology carry over into trust in government?

3.3 Trust in Government

In order that we may define trust in government, we must go beyond what *Pew* and other surveys reveal and investigate the environments in the United States and Canada where trust and government intersect. For the United States, Uslaner and Brown (2005) stated, "equality and honesty in government stand at the beginning of our causal chain. Both are necessary to create trust and the universalistic social policies that lead to a greater level of equality and social cohesion" (p. 44). This causal chain for Americans sprung from nearly a century of coffee house discussions about free will and similarly controversial topics, and then democratic independence from the English Crown at the end of the Enlightenment. Indeed, this is where democratic fiduciary trust began. Because our study looks at trust in digital information across the whole of North America, how Canadians view their government is the other half of our study.

EKOS Politics published a report in October 2013 indicated discontent with Canadian Federal politicians that the U.S. frequently shows in similar reports. The right track wrong track numbers are reversed. 62 % say the country is on the wrong track while only 29% think the Canadian Government is on the right track. The data in this report reflects similar trends in the U. S. Graves (2013) looked at the same survey results published by *EKOS Politics* and determined "The mistrust in government is much more focused on politicians and political parties, not officials" (para. 3). This explains why Canadians' trust in democracy is slowly declining. Perhaps even more insightful to how much Canadians trust professionals outside of politics. Graves asked respondents to classify how they trust a collection of professionals ranging from nurses to blogger and compare the results with similar surveys conducted in the nineties.

The Conference Board of Canada (2013) prepared a report card that puts Canadians' trust in parliament in context with sixteen other countries. Ranking 6th among the sixteen countries (The United States ranks last with a "D") the *Board* gave Canada a "C". There is a pull down menu on in the Web article that compares Canada with each of the fifteen other countries.

4.0 A New Way of Governing

With traditional government, citizens needed to travel sometimes hundreds of miles to receive basic civic services such as obtaining birth certificates and marriage licenses. However, since the late nineteen nineties, governments the world over have been increasingly using computers and the internet to deliver services to citizens. Simply put, electronic government, or e-government, changed this dynamic. In many cases, citizens can now log on to a computer and almost instantly receive services. Combined with large influxes of electronic data, this ease of access might cause problems for those tasked with governing the information.

4.1 E-government

E-government is by no means a new form of government. It began with simple transaction services such as paying taxes or other fees for government services such as trash collection by visiting a website and entering credit card or debit card information. Coursey and Norris (2008) noted that prior to 2004, e-government models were still informational, and that prior models assumed that providing greater access to information would lead to e-participations. Data collected from two surveys suggested prior predictions of increased participation were not born. In many ways this was a manifestation of Web 1.0 wherein internet content was stagnant after delivery.

Today's e-governments have attained a Web 2.0 status. Dixon (2010) defined e-government primarily by automation of standard government services. Dixon introduced the terms "Web enabled government" and "e-government 2.0". Dixon contextualizes e-government 2.0 by identifying five stages of development that encompass the past, present, and future of e-government. E-government 2.0 is at the fifth stage, which Dixon identifies as being political in nature. According to Tolbert and Mossberger (2006), "evidence suggests that e-government can increase process-based trust by improving interactions with citizens and perceptions of responsiveness" (p. 354).

Das, DiRienzo, and Burbridge (2009) concluded, "trust can play an important role in facilitating

the development of e-government within a country as any digital medium is a social platform through which individuals interact or transact with other citizens, businesses, or governments" (p. 2). The level of trust (or lack thereof) is organizational social capital. Another insight from the literature review is that diverse communities tend to foster less trust across the spectrum. Social media networks cancel out this diversity. The study's findings indicate that countries with lower levels of technological, economic, and political (measured here as levels of democracy) developments have less trust in institutions outside of traditional social networks such as families and communities. Because social media bypasses these obstacles, it can foster greater trust in e-government.

Chun, Shulman, Sandoval, and Hovy (2010) placed the development of e-government into four categories. During the first three, basic information is provided on government websites, interactivity is added to webpages, and transaction services are provided. The fourth category is a participatory/co-productive one where government promotes shared governance to transform operations, in terms of seamless information flow and collaborative decision-making (p. 1). Chen, Y., Chen, H., Huang, and Ching (2006) defined e-government as a "permanent commitment" by the established government to provide electronic services to constituents. They note e-government challenges "traditional bureaucratic models" whereby power flows vertically and communication between departments is prone to compartmentalization. In other words, the technology that drives e-government initiatives fosters better communication between internal government departments. All governments, from the most repressive regimes to the most progressive democracies must redefine their commitments between citizens and governments. This commitment must involve social media participation and the open data it produces. Moreover, e-governments must understand elements of trust as they relate to increasing or decreasing social capital. E-participation from the perspective of citizens must be part of a strategy that includes modern e-governance.

4.2 E-Governance

Rossel and Finger (2007) identified three functions of e-governance: "service-delivery, regulation, and policy-making" (p. 400). Mishra and Mishra (2011) posit that e-governance includes participation through the use of any technology or electronic medium to deliver services and information to citizens.

4.3 E-Government versus E-Governance

D'Agostino et al. make a key distinction between e-governance and e-government, where e-government deals with electronic services and access to electronic assets, and e-governance involves providing technology that fosters e-participation for citizens who wish to engage in politics and civic engagement. Because of technology's development, e-governance research has centered on providing evidence that aligns with transactional and e-commerce based services. Given that e-participation goes beyond transactional relationships centered on electronic information access to include politics, it will be useful to look at how municipalities use web pages to facilitate e-participation. In other words, the onus for providing better e-governance lies

first with creating more efficient e-government models, and then with providing better e-participation that strengthens e-governance. Essentially, D'Agostino et al. view social media applications as potential e-governance tools that provide citizens with a means to engage in e-participation.

Although citizens use social media to interact with each other throughout the spectrum of issues that affect them, including politics, there is no definitive link between e-governance and e-participation. Kolsaker and Lee-Kelley (2008), studied citizen participation (e-participation) in e-government through the lens of e-governance and concluded that e-governance is not fully functional until e-participation takes place.

4.4 Open E-Government

Before moving forward, we should pin down what today's open-government means to our research. On the surface, the term open-government might simply mean allowing public access to information used to govern society. However, according to Yu and Robinson (2012), open government not only means easy access to information, but also public access, and, in some cases, participation in policymaking. This implies that open government is a partnership between government and citizens. Indeed, when a citizen goes to the polls to vote on a specific law passed by a legislature they previously voted into office, that citizen participates in that partnership. Fiduciary trust is the mechanism that supports this traditional democratic process. Because much of today's governments worldwide are focusing on providing e-government services to constituents, any qualification of e-government must reside in the parameters of open government.

As already outline, e-government is a permanent construct of what today's government means to our societies. Because our research focuses on trusting digital information, we can make the leap to open e-government. There are, however, some qualifications to this. Open e-government does not mean open data. There are some instances, such as national security threats, in which the public does not have access to data. Further, open-data must be separated from politics because it clouds the meaning of open e-government. Yu and Robinson proposed ambiguity regarding the definition of open government. This ambiguity comes in part from confusing data easily available with the use of technology as "open." Even authoritarian regimes might provide access to things like bus schedules. This is compartmentalized open data, but not necessarily open government. As several recent authoritarian governments have discovered, social media use by disgruntled citizens can lead to revolution. There are crucial reasons for this compartmentalization.

Coglianese (2009) noted that open-government does not mean 100 % transparency in every action. He cautions that we should not seek this complete transparency but seek transparency in policymaking. Open government means government should not make policy in secret or behind closed doors. This is the foundation of our hypothesis. Social media produces incomprehensible amounts of unstructured big data. This data is in electronic form. Therefore, open data in the context of social media content means open electronic data in the context of compartmentalized open government. Without this distinction we could become stuck in a quicksand debate about whether or not citizens should have access to all data governments produce.

4.4.1 Open Government and the Open Government Partnership

Founded in 2011, the Open Government Partnership (OGP) is a group globally focused on specific actions countries can take to facilitate open-government initiatives:

> OGP aims to secure concrete commitments from governments to drive open government reform and innovation at the country level, in an effort to stretch countries beyond their current baseline in the areas of transparency, accountability, and citizen engagement (para. 1, "What is Open Government Partnership").

Rather than explicitly defining open-government, the OGP gives countries direction and process for achieving better open-government. The OGP does this with three directives:

- Maintain high-level political leadership and commitment to OGP within participating countries

- Support domestic reformers with technical expertise and inspiration

- Foster more engagement in OGP by a diverse group of citizens and civil society organizations

The United States and Canada are just two of the 63 member countries that belong to the OGP. The United States is one of the original members with Canada joining in the second phase. For the purposes of our research, three resounding principles emerged from both the United States' and Canada's qualification of open government.

Open government, from the Obama Administration's open government initiatives, relies on three principles: transparency, participation, and collaboration in the form of e-governance. In 2008 the Office of Budget Management Watch (OMB Watch) commissioned a report that looked at e-government in U. S. Federal Government (Coglianese, Kilmartin, & Mendelson, 2008). The report highlights recommendations in three categories: transparency, public participation, and strategic management. Transparency represents open government, public participation represents e-participation, and strategic management represents e-governance.

5.0 Theoretical Foundation

Four theories, explained in a progression from private individual trust to fiduciary trust form our theoretical foundation. First, **Social Capital Theory** is a broad theory encompassing the "norms and networks facilitating collective actions for mutual benefits" (Woolcock, 1998, p. 155). Second, **Behavioral Trust Theory** defines trust relations among people and organizations. Specifically, the behaviors group members exhibit while forming trust relationships, first among themselves, and then among groups that trust organizations, particularly governments. Third, **Social Network Theory** views social relationships in terms of node and ties (actors and relationships, or in this case citizens and government). Interactions among individuals create opportunity for knowledge sharing and information exchange, and are crucial in the building of trust among individuals. Finally, **Resource-based Theory** explains how public administrators utilize their resources and capabilities to share information, engage and influence citizens, and foster e-participation through social media strategies.

It is crucial that we understand these four theories do not exist without the progression of trust outlined above. To this end, moving from an explanation of social capital theory, to behaviors present in trust relationships, to an explanation of social network theory, and then finally to the electronic resources available to governments that wish to utilize social media to increase social capital requires that we reconcile social trust with fiduciary trust. Just as with the types of trust identified above, our theoretical foundation is a progression, one that sees fiduciary trust as final outcome either strengthened or weakened by e-governance.

5.1 Social Capital Theory

If trust is the "lubricant of cooperation" among group setting participants (Misztal, 1996, p. 7), social capital is one result. As we saw with the Facebook revolution, uniting around a common goal can lead to the overthrow of a government. Unfortunately for Egyptian President Hosni Mubarak, the common goal was for Mubarak to resign as president and not interfere with the structuring of a new constitution and elections. Why Facebook? Was there anything unique about how Facebook encourages social capital? Facebook user satisfaction is measureable. Karnik, Oakley, Venkatanathan, Spiliotopoulos, and Nisi (2013) identified four elements that align with Facebook user satisfaction: "contribution, discovery, social interaction and entertainment" (p. 823). Although the social interaction and entertainment elements are worthy in their own rights, "contribution" and "discovery" are the glues that hold social capital together as a uniting force. Chappell and Funk (2010) noted "social capital tends to (but not always) integrate…social participation with an attitudinal dimension such as trust… the most common measures of social capital are membership in informal and formal groups, and interpersonal trust." (p. 358). If a member discovers something that supports or hurts a group's social capital, he/she contributes in a cooperative manner to a realignment of behaviors that strengthen the social trust bonds among members of the group. This in sum is collective action, with social capital being its sometimes-volatile result.

Killerby (2005) defined social capital as "a latent form of collective action, an intangible stock of norms and networks that defines the limits of cooperation in a society, community or group" (p. 4). Fukuyama (2002) defined social capital as "any instance in which people cooperate for common ends on the basis of shared informal norms and values" (p. 23). Social capital, therefore, is an often latent and potentially volatile uniting force. It requires a shared belief system centered on trust bonds that are reciprocal and interpersonal. This leads to mutual trust and then social trust. Social capital supports collectivism among member of a group. Collectivism, however, is merely the result of social capital. What elements inspire collectivism?

According to Scheufele and Shah (2000), there are three elements to social capital: intrapersonal, interpersonal, and behavioral. Although conceptually we can apply mutual trust to our interactions with government, its particular power lies in our mutual and reciprocal actions within our social groups. This is another way of seeing the progression from mutual trust to social trust through interpersonal trust bonds. Merely identifying a group's social capital is not enough to support fiduciary trust. What we are after is the identification of behaviors people exhibit while forming trust bonds and how can apply these observations to the development of positive fiduciary trust bonds.

Musso and Weare (2014) acknowledge "the need for greater empirical attention to the manner in which social network development stemming from participatory institutions may foster the types of social capital found to have positive effects on democratic governance" (p. 151). Open participation is intrinsic to this need as increased opportunities for political engagement allow for relationships between citizens and government to develop and mature. Thus, participatory networks such as social media and e-governance provide for the formation of social capital by way of "the aggregation of numerous decisions by individual actors to form, maintain, or dissolve interpersonal relationships" (p. 151). The success of government to encourage and foster citizen participation benefits its community's social capital.

5.2 Behavioral Trust Theory

Lewicki, Tomlinson, and Gillespie (2006) looked at how trust relationships evolve over time and concluded, "the operational level of trust is often deduced from either the proportion of cooperative choices or the long-term behavior patterns of those who chose to cooperate" (p. 996). These patterns are characterized by certain behaviors that "trustors" and "trustees" exhibit while performing the actions of the partnership. Positive expectations lead to behaviors that strengthen the trust bond. For the purposes of our research, this bond between trusting parties applies not only to personal relationships between constituents and public servants, but also by extension to the institution or government attached to the public servant's actions. Said another way we will refer to the relationships as being interpersonal, with "interpersonal trust" as the representative phrase for identifying specific behaviors.

Karnik, Venkatanathan, Spiliotopoulos, and Nisi (2013) use interpersonal trust centered on individual attributes such as Facebook status updates and discovered activities organized around specific actions cause behaviors that encourage trust relationships. The authors identified four social media related activities that encourage interpersonal trust: contribution, discovery, social interaction and entertainment (p. 823). If we posit that satisfaction seeking is a primary motivating factor for an individual's use of Facebook, the four elements take on a new meaning that is collective in nature. With the exception of "discovery", the other three need social interaction to materialize. If we add into the scenario what happens when users like a post or re-tweet a post, discovery becomes an integral part of the contribution to social capital formation. Social media participation, through contribution, discovery, social interaction, and entertainment, induces social media capital.

We gain some insight into trust behaviors as they relate to e-participation and e-government by looking at how and why humans trust computer delivered information. Using the simple question "how do humans trust information obtained over the internet?" Gligor and Wing (2011) divided the question into two parts, addressing the values obtained during the sender receiver partnership. The receiver value relates to how the information advances an intended action planned by the receiver. Conversely, the sender shares the same value by assuming the information sent advances the intended action. If this sounds familiar, it should. This is the model of a contract agreement such as that which exists between a seller and a buyer. In this contract, the exchange of a product for payment means the shared value is how the transaction affects the relationship in positive or negative fashions. This is basic customer service. Gligor

and Wing refer to this as "Isolation from Sender's Behavior" (p. 6). Sometimes trust exchange is not the motivation for one side or both to advance an intended action. In the case of e-participation and e-government the trust bound centers on those enhanced or negatively impacted by the values and behaviors of governmental actions.

5.3 Social Network Theory

Social Network Theory is a complex mix of two partner theories that look at two primary parts of a social network. First, much of our investigation of social networks comes from Social Exchange Theory (SET), a decades old sociological theory that investigates patterns and outcomes of sharing information or beliefs in social networks. SET explains "the exchange of social rewards" (Gachter and Fehr, 1999, p. 342) in a given group. Second, Social Network Analysis (SNA) "allows us to explore how different parts of a system are linked together and to define the overall structure of that system and its evolution over time" (Crooks et al., 2013, p. 207). For our purposes, Social Network Theory explains the nodes and ties between the social rewards produced by a networked group, and how groups of these socially networked individuals contribute to our three forms of trust, specifically fiduciary trust.

Investigating nodes and ties between citizens and governments requires identification of the interpersonal trust bounds present in social networks. Abbasi, Wigand, and Hossain (2014) see these nodes and ties as "crucial in the building of trust among individuals" (p. 68) in socially linked groups. Because we are looking specifically at how data created by social networks such as Twitter and Facebook affects the fiduciary trust bonds between governments and citizens, what we are after is the specific nodes and ties people exhibit while forming trust during knowledge sharing. Chow and Chan (2008) found that "a social network and shared goals significantly contributed to attitudes toward knowledge sharing" (p. 463). Mutual trust that leads to interpersonal trust relationships in a group setting is supported in a cyclical manner by the social capital produced. The result of exchanging shared goals in social networks is social capital; the ties between members of the network facilitate the exchange of social rewards.

Social rewards lead to social trust in other members of the group. Gachter and Fehr (1999) explained an emotional side to social reward, noting, "in general social rewards are not based on explicit contractual arrangements but are triggered by spontaneous positive or negative emotions which can be interpreted as approval and disapproval, respectively" (p. 342). Because social reward occurs when information is exchanged in a networked group, the information shared is a catalyst for producing social trust. When this information is civic minded, social networks act as binding agents that facilitate social network cohesion while reacting to catastrophic events such as floods or wildfires. When the information is political in nature, that same cohesion occurs around actions that facilitate voting and other democratic-like actions. Applying SET to our research reveals that social rewards are emotionally based and sometimes foster spontaneous reaction. In the case of social media participation, knowledge sharing is the common thread between "contribution, discovery, social interaction and entertainment" (Karnik, Venkatanathan, Spiliotopoulos, & Nisi, 2013, p. 823).

Knowledge sharing is a key mechanism for disseminating information, in both group settings that develop social capital, and in government entities mandated to provide services to

constituents. Using social media in government is in essence a knowledge sharing mechanism that upsets the traditional top down governance that exists in most democratic societies. Therefore, it is prudent that we examine elements of social networks that support and/or discourage knowledge sharing. Hsu and Chang (2014) looked at how knowledge sharing within a group affects the interpersonal trust bonds within that group. They concluded that as knowledge sharing increases, uncertainty decreases, which in turn promotes trust. This implies that trust increases as the knowledge a government shares increases. Further, Hsu and Chang concluded "social interaction ties and a shared knowledge-sharing vision exercise positive effects on interpersonal trust" (p. 135). Uniting around a common outcome such as uncertainty fosters greater trust among members of that group (Hsu, Liu, & Lee. 2010, p. 300).

When members of a democratic society vote for a politician as a group, they bring their social capital to the polls (Knack, 1992). However, seen through a social network theory lens this illuminates the fact that SET and SNA only explains what happens. What we require is guidance in how citizens develop social capital that leads to constructive fiduciary trust relationships in today's e-government environments. Finally, what vehicles are available to citizens and governments that will foster fiduciary trust relationships that occur within e-government? Kolsaker and Lee-Kelley (2008) studied citizen participation (e-participation) in e-government through the lens of e-governance and concluded that e-governance is not fully functional until e-participation takes place. Simply put, e-governments must employ elements of co-production that will strengthen e-governance. In order that we may see where co-production and e-participation fits into social network theory, we must offer separate explanations.

5.3.1 Coproduction

Dealing with complex issues surrounding how to provide public services to members of inner-city communities, coproduction gained popularity in the late 1970s as a means for understanding the relationships between government service providers and citizen receivers of services such as police and medical responses. Investigators found

> The production of a service, as contrasted to a good, was difficult without the active participation of those supposedly receiving the service. If students are not actively engaged in their own education, encouraged and supported by their family and friends, what teachers do may make little difference in the skills students acquire. If citizens do not report suspicious events rapidly to a police department, there is little that department can do to reduce crime in an area or solve the crimes that occur…Coproduction is one way that synergy between what a government does and what citizens do can occur (Ostrom, 1996, p. 1079).

Researchers discovered that instead of one large bureaucratic machine providing services, a collection of locally connected organizations provided services in an economic-based cooperative model. These organizations cooperate to provide services in a co-productive manner. For instance, although a crossing guard likely works for a city or a law enforcement organization, the crossing guard works with school officials to provide safety to children on their way to school. Consequently, the city and police work in partnership to ensure the safety of children. Seen through the lens of a fiduciary trust relationship developed with mutual trust, understanding coproduction partnerships will go far to explaining how these partnerships

flourish in social media environments.

Studying co-productive partnerships in today's e-government environments, Linders (2012) developed a typology for understanding coproduction through e-government services. Linders reasoned there are three components of these partnerships, "Citizen Sourcing (Citizens to Government)", "Government as a Platform (Government to Citizen)" and "Do it Yourself Government (Citizen to Citizen)" (p. 447). These components mesh with our previous discussions about the progression of trust transfer among in networked groups. With *citizen sourcing* citizens take an active role in helping government provide better services. With this component, fiduciary trust bonds are reinforced by the willingness of the government to provide better service. With government as a platform, Linders points out that providing e-government services to citizens would cost next to nothing, freeing government officials to concentrate on improving the service delivery. With this component, "Government is not responsible for the resulting activity, but can leverage its platform and influence to foster greater public value" (p. 447). Because citizens evaluate the provided services, "greater public value" has considerable weight in measuring trust. Citizen sourcing coupled with government as a platform would be an ideal representation of coproduction in an e-government environment. The key is the manifestation of the node and ties of the citizen network. Linders's third component, "do it yourself government" is brought on by the ease with which citizens can connect remotely to government for services. To that end, today's co-production manifests through e-participation. Trust bonds are as important as ever.

5.3.2 E-Participation

Broadly speaking, The United Nations defines e-participation as "the sum total of both the government programs to encourage participation from the citizen and the willingness of the citizen to do so" (para. 3). E-participation within the context of e-government essentially means public participation in the e-governance process using information communication technology (ICT). Watson and Mundy (2001) see e-participation as a necessary element of e-democracy, a democracy that they see as forming in three stages, initiation, infusion, and customization. Initiation involves governments providing some services through the use of Web portals. In this stage simple transactions occur such as paying for license renewal. Infusion involves "mass presentation" on the e-government side and "open access to government information" on the e-politics side (p. 28). According to Watson and Mundy if citizens participate they can learn "how and why a particular political decision is forming, citizens will be more capable of monitoring and influencing politicians (p. 29). The digital technology used in this platform is social media and other Web 2.0 applications. The final stage toward e-democracy is customization. In this stage citizens have a personalized online identity and simple tasks such as changing one's address is a few clicks away. Watson and Mundy consider the e-politics connection as "citizens can customize relevant information" (p. 28). Although these three stages can be seen as a framework for implementing e-government, it is the bringing together of "relevant [electronic] information" and personalized citizen-focused electronic identities that moves e-governments to practice e-governance and e-democracy.

There is a final element, one addressed by Linders's third component. Because today's citizens network in online communities such as Facebook and Twitter, the technology behind online communications is a major point of negotiating the trust bond relationships in fiduciary trust. Macintosh (2004) noted that e-participation requires the use of ICTs. "In the case of e-participation there are a growing number of examples of government organizations innovatively using technology to provide access to policy information and request comment on it. These examples demonstrate how technology is emerging as a tool to provide people with the capacity to participate and influence decision-making" (p. 1).

5.4 Resource-based Theory

In this last section, we interject the previous discussions about trust into a cohesive model that explains the various parts of an e-government. We then take the attributes identified in the previous three theories and apply them of our e-government model. This model pays close attention to e-governance practices and posits that social media initiatives are a necessary part of the model. Further, our e-government model suggests that if today's e-governments seek to increase or enhance its mutual and fiduciary trust relationships with their constituents, the core government must nurture the social capital induced by social media initiatives and include them as strategic elements for building and strengthening the trust relationships. Using resource-based theory, we can strategically arrange the parts of our model to achieve the best outcome.
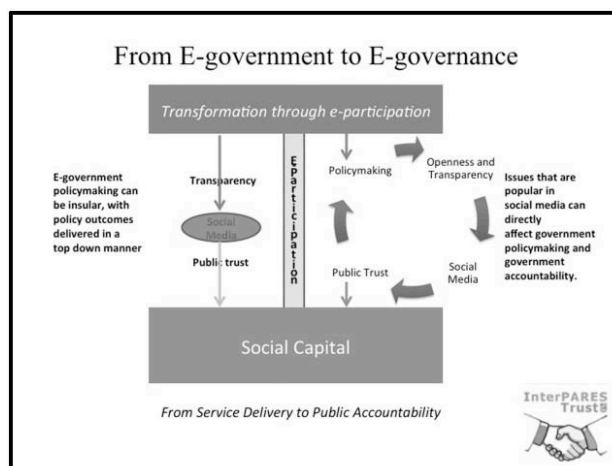
Resource-based theory (RBT) is a holistic approach for leveraging components available to management of a firm for the purpose of achieving maximum profits (Kozlenkova, Samaha, & Palmatier, 2014). For our purposes maximum profits equates to maximum trust. Grant (1991) noted a firm's resources should be utilized in a strategic manner for the common good of the firm: "first, internal resources and capabilities provide the basic direction for a firm's strategy, second, resources and capabilities are the primary source of profits for the firm" (p. 116). An e-government's internal resources include mandates for governing

Mahoney and Pandian (1992) defined RBT in terms of increased resources, or "rent." Moreover, "A firm selects its strategy to generate rents based upon their resource capabilities. Organizations with the strategic capability to focus and coordinate human effort and the ability to evaluate

effectively the resource position of the firm in terms of strengths and weaknesses have a strong basis for competitive advantage" (p. 364-365). The authors explain that identifying strengths and weaknesses is a necessary part of strategic management. Given *Pew*'s identification of fifty years of declining trust in government, e-governments can use this trust deficit as an asset if the end result is greater transparency and openness in government.

Because e-participation includes methods for online participation between those that hold civic offices and the citizens, our conceptual model must be progressive and pertain to the common goal of decreasing the trust deficit between citizens and government. In many ways an entrepreneurial outlook is progressive because such an outlook depends on a positive vision. Morris, Kuratko, Allen, Ireland, and Schindehutte (2010) mentioned "the rate at which entrepreneurs grow their resource pool strongly influences venture performance over time" (p. 5). In this way Morris et al see RBT as an acceleration of the entrepreneurialism present at the beginning of the endeavor toward greater profits for the firm. We must identify the elements of e-participation that are progressive and future-oriented.

The first element of e-participation is Internet Communication Technologies (ICTs)**.** With a progressive mentality, Bertot, Jaeger, and Grimes (2010), noted "many nations with transparency laws have directly tied the implementation of these laws to the implementation of ICT-based initiatives, often through e-government" (p. 265). We should not, however, confuse ICTs with internet access. Bonson, Torres, Royo, and Floresc (2012) found that internet access is not a factor in measuring social media use among the citizens. Using social media, citizens are discussing issues that affect them at the local level. Supporting this finding, Bryer and Zavattaro (2011), looked at social media technology from a humanistic perspective. Bryer and Zavattaro tied social networking to the technology, stating, "unless social means are attached, the platform is not being utilized to its fullest social capacity…The network was the facilitative means to achieve the social end. The same is said of digital spaces that produce similar outcomes" (p. 328). Kriplean et al recognized that modern electronically enabled societies are networked together in social groups that rely on two-way communication, not the stagnant Web 1.0 world in which many government agencies still operate. The authors sought the construction of structured and repetitive mediated spaces that are "molded into something actionable during decision-making, as well as fostering communication between contributors and decision makers" (p. 2). This should increase social capital.

The second resource we should identify is the plethora of social media applications citizens use to support and encourage social, mutual, and fiduciary trust bonds. In our research, we use Facebook and Twitter structured and unstructured data. We focus on these two social media applications because they have wide and popular footprints in the digital realm. To that end, in recent years, worldwide participation in social media connected networks has exploded. Facebook, in its *Third Quarter 2013 Financial Summary* [1] indicated there were 1.19 billion monthly active users, and 728 million daily active users. Let us put these numbers into a global perspective. The U.S Census Bureau's *U.S. and World Population Clock* [2] lists the global population at 7.17 billion souls. Facebook's daily active users represent over 10 % of the world's

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[1] http://www.prnewswire.com/news-releases/facebook-reports-third-quarter-2013-results-229923821.html
[2] http://www.census.gov/popclock/

population.

Twitter's micro-blogging promotes computer-aided collectivism. In recent years micro-blogging, posting short 140 character or less messages on social media sites such as Twitter, has exploded in use. Several things account for the explosive growth. For instance, Google and other major companies have Twitter accounts that they use to send specific messages to potential customers. According to Hsu, Liu, and Lee (2010), Google had 176 million followers as of 2009. However, as more people connect to social networks through micro-blogging, where Twitter and other companies like it promote actions for marketing purposes, a form of computer-aided collectivism explodes. Hsu, Liu, and Lee (2010) postured that "micro-blogs are open public platforms. Thus, the sense of intimacy is not one-to-one but one-to-many" (p. 293). From a marketing perspective, the "one to many" scenario is ideal.

Valenzuela, Park, and Kee (2009), "predicted that there would be positive relationships between intensity of Facebook use and intensity of Facebook groups use and students' life satisfaction, social trust, and civic and political participation" (p. 893). Moreover, "Facebook use and Facebook Groups use still predicted respondents' social capital. These findings do not support the popular view that heavy Facebook users are more isolated and less connected than occasional users. The data show that the opposite holds true, a finding that is coherent with the recent literature on the effects of informational, social interaction and identity-construction uses of the Internet" (p. 893). As governments come to terms with losing some control over how social media affects how they govern, it is necessary that they define what they can keep secret and what can be delivered to citizens. These boundaries represent modern e-government, or e-government 2.0. Mishra and Mishra (2009) completed an extensive literature review of 374 studies and found only 6 % see e-government challenges as knowledge management issues, and 7 % saw the main challenge as e-government process. What does a successful e-government 2.0 initiative entail?

The third resource is that data itself. Because social media content exists in public forums such as Twitter and Facebook, social media open-data often has a convoluted link to open-government. Yu and Robison put it this way, "the goals of disclosure run on a spectrum between *service delivery* and *public accountability* (p. 182). In this context, some Middle Eastern governments have recently tried shutting down internet access to its citizens in hopes of suppressing social media participation and the data it produces. In essence, social media content can force even the most repressive governments into unwilling public accountability.

Social media, however, is not a catchall. Welch, Hinnant, and Moon (2005) relate that governments are using e-government to deliver information and are not using the full capabilities of two-way communication prevalent in a Web 2.0 digital realm. Today these technologies are the many social media platforms that allow users two-way communication. Particularly, the authors state "the extent to which citizens recognize and are satisfied with e-government strategies is not clear; nor is it clear that there is a connection between satisfaction with e-government and trust" (p. 372). The authors used 2004 National Election Studies (NES) data from the University of Michigan to examine various elements that affect trust in government.

Freed (2010) broke down social media content into three categories: **controlled social media**,

which is content the organization owns, controls, and manages; **sponsored social media**, which is typically controlled, but has little oversight by the organization; and **viral social media**, of which the organization neither owns nor controls, but can be monitored. Because organizations' websites now include links to the respective social media platforms, the white paper notes that the lines between these three are blurring. Although according to Freed, "**Viral** social media is particularly distressing for marketers…influence can be improved by driving social media participants to your website through the **sponsored** and **controlled** social media channels" (p. 4). What does this mean for municipalities that use social media platforms? Public organizations such as municipalities need better measurement tools that understand how the lines between the three types of social media content interact with public servants and those who depend on them for civic services. These new measurement tools can be approached from marketing and sales perspectives to drive customer satisfaction. Positive satisfaction will in turn foster better trust between the two.

Some evidence suggests citizens are not using social media for political reasons, and in fact, the evidence shows social media participation causes people to be less politically motivated. Gibson, Howard, and Ward (2000) found, "internet use has a direct and negative impact on political participation, independent from its mediated effects through social capital" (p. 15), and that there are two ways people used the internet to develop social capital: gaming and socializing. Conducted more than a decade ago, the authors discovered a negative link between online political participation and social capital in the United States. Additionally, Gibson, Howard, and Ward found that while online socializing may lead to higher levels of offline socializing and civic engagement in one's community, it appears to make one less likely to engage politically.

Chun and Luna-Reyes (2012) identified a "Social media-based citizen engagement model" (p. 442). Conversely, De Cindio (2012) looked at how to design online spaces that facilitate e-participation that reflects e-democracy by "designing a digital habitat that enhances deliberation" (para. 9). Investigating the links between social networking, social trust, and organizational knowledge sharing, Chow and Chan (2008) used questionnaires distributed to randomly selected managers in the Hong Kong area. Their findings indicated in part "that social pressure imposed by coworkers and managers leads to knowledge sharing" and, "organizational members who felt pressure to share knowledge were those who had established a large social connection of employees with similar organizational visions or goals" (p. 463).

Sallot, Porter, and Acosta-Alzuru (2004) examined the power relationship between those that create Web content and those that use it: "the web empowers practitioners by providing a means for them to communicate directly with their publics, bypassing traditional "filters" and "gatekeepers," such as editors in the news media" (p. 273). This bypass of traditional filters is one possible explanation why social media applications are popular. Popularity aside, city authors of social media content would benefit from the PR literature review this research relies on. Insights into what marketing firms want to accomplish on social media sites is helpful in understanding how and why social media users trust.

Pentina, Zhang and Basmanova, (2013) studied brand theory and loyalty concepts that drive customer connections on Twitter. The study compared data from the US and the Ukraine to

determine any cultural differences in how trust is developed with social media sites. The authors contend, "understanding whether and how trust in these sites affects users' intentions to continue their membership and to recommend these sites to others is important for marketing researchers and practitioners" (p. 1548).

6.0 Sentiment analysis

Given the prevalence of microblogging for communication among social groups in recent years, the steady increase in empirical work surrounding Twitter is unsurprising. Sentiment analysis (SA) and opinion mining constitute a number of methodological approaches to extract sentiment (e.g., mood) from text to measure fluctuations and patterns in the perceptions, moods or opinions of social groups over time (Bollen et al 2011). In terms of Twitter, tweets become the source of data or text from which positive, negative or neutral sentiments (or variations thereof) are determined. As such, Twitter is an abundant source of data relevant to measuring recent public attitudes toward government.

In their work on SA Psomakelis et al (2015) delineate the different methods of SA and differentiate between lexicon-based and learning-based approaches. They also problematize document-level SA (wherein "documents" are "tweets") by acknowledging the challenge for machines to translate textual data into an understandable format (p. 2). Their research indicates that there are a variety of methods, some simpler and more cost-effective than others. For our research we have been applying a Natural Language Processing method "Bag of Words" approach when analyzing Twitter data that the researchers proffer is the "simplest method" (p. 3).

Bollen, Pepe & Mao (2011) used a lexicon-based SA approach in their analysis of how Twitter posts between August 1 and December 20, 2008 "relate to fluctuations in macroscopic social and economic indicators in the same time period" (p. 1). The researchers employed an extended Profile of Mood States (POMS) instrument to map tweets over the selected time period according with six "dimensions of mood, namely *Tension, Depression, Anger, Vigour, Fatigue,* and *Confusion*" (p. 2). Their findings indicate POMS and similar "psychometric" approaches to sentiment analysis are effective when analyzing limited user-generated content such as tweets.

Using a similar lexicon-based approach, Small (2012) based their study on "content analysis" and used a "type-based coding scheme" to analyze tweets produced by the Government of Canada departments or agencies during March 2011 (p. 96). The researchers coded and mapped tweets according to a specific classification scheme: service delivery (e.g., "Focus on government services, information, and media announcements), democratization (e.g., "Are discursive through @replies and retweeting; Ask for citizen opinion and encourages citizen involvement"), or other (Table 1, p. 97). This allowed for the finding that democratization is characteristically absent from the Government's use of Twitter (p. 107). Though she did not directly analyze trust in her

study, Small mentions that openness and accountability by government is influential in increasing citizen trust (p. 92).

The relation between public sentiment and trust in the context of Twitter is not well understood, especially given the challenges surrounding SA more generally. However, if we believe governments can use social media tools to foster citizens-government interaction and transparency more effectively, it is important to understand and evaluate how governments have been using such tools to-date. Whether posts can be mapped according to sentiment and then related to concepts and theories of trust defined earlier is our area of interest in SA.

7.**0 Conclusion**

This literature review highlights that the best way to understand trust relationships between citizens and government is to view them as processes. Viewing these processes require that we start from the beginning—trust relationships between individuals—and work toward an understanding of group trust and social capital. Whether it be from our immediate social groups, such as those created during social media participation, or assumptions that the rule of law will protect us from injustice, the starting point for understanding these processes is a realization that we bring with us to the processes institutional trust. The uniqueness of this literature review is that it proposes that the electronic big data created during social media participation can be a powerful tool for facilitating e-participation in open government initiatives.

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