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Social Media and Users' Participation: Identifying the Attributes and Its Impact on Information Policy

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ABSTRACT

Social media has grown remarkably and transform the communication mechanism. This recent advent of social media has escalated the hope of better and increase quality of users' participation. This paper thus studies the impact of the determinants of social media usage on information policies, in particular information stewardship and usefulness. A combination of literary analysis, descriptive statistics of data from PEW Internet, and content analysis from interview were used as methodology to support the arguments. This study argues for five challenges related to the technological and users' related usage of social media. These challenges are: a) clarity of users' identity, b) conflict of information ownership & confidentiality, c) distinguishing public versus private information, d) definition of records & creation of meta data, and e) longevity of data & retention of records. Furthermore, this study proposes four critical factors that should be consider in the design and development of information policy governing the steward and use of information. These critical factors are: a) information credibility, integrity, and accuracy, b) security, privacy, and confidentiality of information, c) ensuring information access and availability, and d) data sharing and public-private partnership..

KEYWORDS: Social Media, Public-Private Partnership, Information Policy, Information Stewardship, Information Usefulness

INTRODUCTION

Social media has grown remarkably and transform the communication mechanism. Since the emergence in 2004 (O'Reilly, 2005), the adoption of social media in the United States is rising. Survey by Pew Internet and American Life project indicate that the average citizens engaging and using social media increase significantly, from 29% in 2008 to 46% of respondents in 2009. The frequency of visit to the social media sites growing rapidly from 33% in 2008 to 51% of daily visits in 2009. (www.pewinternet.org). This recent advent of social media has escalated the hope of better and increase quality of citizens and government relationship. On the other hand, rapid technological development challenges the existing information policies governing information stewardship and usefulness. This paper thus studies the impact of the determinants of social media usage on information policies, in particular information stewardship and usefulness.

The enthusiasts of social media assert that social media could generate networked space that could enhance the deliberative and participative process between government and citizens. For instance, wiki provide a space for citizens to have a high quality, collaborative, active, and vibrant discussion of government issues that is lack in 'traditional' public comment sessions (Kriplean, Beschastnikh, Borning, McDonald, & Zachry, 2009). Focus group discussions conducted by Chang & Kannan (2008) also reveal that citizens have positive attitudes toward the use of social media for citizen participation. Ongoing effort, including increase relationship with citizens, has been made by government agencies, such as TSA blogs the "Evolution of Security" (http://www.usa.gov) with the aims to inform and listen to the public.

In one hand, social media have the potential to promote and facilitate extensive discourse in the relationship between government and citizens. In the other hand, the advent of social media present new dilemmas related to privacy, confidentiality, and security concern (Chang & Kannan, 2008), credibility, integrity, and accountability of information (Hochheiser & Shneiderman, 2010), and metadata and data definition. Hence, challenges the existing information policies.

To be able to properly identify challenges bring forth by social media, it is necessary to identify the determinants that affect social media usage within government – citizens' relationship. Kasper & Scearce (2008) assert that social media is a combination of human and technological construct. Thus, the challenges reside not only in technology but also social context. Analyzing the impact of social media usage to encourage citizens' participation on information policies requires identification of both technological and user's related determinants. Thus the questions to be answered are: what are the determinants of social media usage within government-citizens relationship? How might these determinants affect information policies?

The remainder of this paper is organized as follows. Section II will shortly present the methodology and approach for this research. In section III this paper will explore the technological and social attributes that determine the use of social media. Section IV discusses the impact of these determinants on information stewardship and usefulness. Finally, section V summaries the paper and provides concluding remarks.

METHOD

Identification of the determinants of social media usage is conducted through literary analysis and supporting evidence is derived from the survey by Pew Internet and American Life Project in spring 2008 titled 'Could Computing, Politics, and Adult Social

Networking'. Additionally content analysis is conducted on the interview of the founder of TSA blog's Evolution of Security.

RESULTS AND DISCUSSION

The Determinants of Social Media Usage

Social media can be defined as communication channel that facilitate user-oriented information sharing (Kim, Kim, & Kim, 2010) that enable people to create, publish, share, collaborate, discuss, and network through a wide range of, mainly, digital formats (Jackson, Berdou, Ngounoue, Kreutz, & Clark, 2009). According to Boyd & Ellison (2007) social media, in particular social network sites, leverage and extended the users' existing offline network.

The effectiveness and attractiveness of social media sites is primarily affected by human qualities elements (Kasper & Scearce, 2008), as oppose to solely technological construct. It is driven by the qualities inherent within human traits, such as enthusiasm, emotion, and peer pressure. This research proposes 8 determinants of social media usage that is related to both technology and users' related attributes presented in table 1.

Technology related factors of social media usage:

1. Ease of connect or disconnect. The ease of connect or disconnect in social media is evidence in the easiness to create a profile (Boyd & Ellison, 2007) and to delete a profile. Most social media sites require four kinds of information, namely: some kinds of identification, email address, password, and captcha (an image of colored or distorted text). This easiness is also used to encourage participation, Wikipedia account creation page assert that it is only take a few second to create a free user account as a point of attraction. Deactivating an account is also easy to do, it is only require a single click to deactivate facebook account.

2. Anonymity and Multiple Profiles. The tools provided by social media technology enable users to restrict or remove meaningful identifying information (Christopherson, 2007). For instance, it is easy for users to create phony identity to fulfill the identification requirement in social media. It is under the choice of users to decide the extent of identification information to be disclosed in social network sites (Boyd & Ellison, 2007). The ease of creating identity to sign up for social media sites lead to anonymity and creation of multiplicity of profiles. In average 50% of social networking site users have at least two profiles in one site and 45% in average have profile in at least two social networking sites (www.**pewinternet**.org).

3. Visibility. The visibility within social media, in particular social networking sites, relate not only to the users profile but also users' friends connection. To some extent, users have the discretion to decide the level of disclosure in their profile. Some sites, such as LinkedIn, by default control what viewer might see (Boyd & Ellison, 2007).

Technology Related Attributes	Users' Related Attributes
· Ease of connect or disconnect	· Peers pressure
· Multiple profile & Anonymity	· Trustworthiness
· Security, privacy, & data ownership	· Perception of privacy protection
· Visibility	· Preservation of interest

Table 1. Summary of Social Media Attributes

For instance, by clicking facebook account from search engines result, viewer could see user profile and some user list of friends.

4. Security, Privacy, and Data ownership. Security in social media sites mostly reside in user's discretion. All social media sites encourage users to provide a strong password and using captcha to protect against automated account creation. Aside from that, the level of security and privacy is according to user's discretion. Users will decide and control access and what viewer might see from their profile using privacy settings provided by the sites (such as facebook). This tool enables users to protect some of the data available online, such as: photos, videos, or notes. However, other data posted online, such as users' status and comments, mostly become public data.

Users' related factors of social media usage:

1. Peers pressure. Social media leverage on social presence and users' existing social network (Boyd & Ellison, 2007). The pressure from users' own network affects the usage of social media (Kaplan & Haenlein, 2010). Perceived encouragement from other member and peer pressure influence users to use and engage in social media (Kwon & Wen, 2010) and contribute in the discussion of particular topics (Brzozowski, Sandholm, & Hogg, 2009). 24% of social network users create multiple profiles to match with their friends (www.pewinternet.org).

2. Trustworthiness and Social Identity. Social media has enable users to participate and create social group based on similarity in interest, purposes, and motivations. This membership, cohesiveness, shared beliefs, and emotions create sense of community among users. Sense of community and social identity created through online interaction are one of the determinants of social networking sites usage (Kwon & Wen, 2010). Sense of belonging to a particular community creates trustworthiness in using the social media sites, thus affects the sociability and usability in online communities (Preece, 2001) and dictates user's political behavior online (Wang, 2010).

3. Concern over privacy and security. Social intimacy among users supported by technology that enables the collection and retention of large bodies of user-generated content and information give rise to the issue of privacy and security over personal information (Rotman, 2010). Users' concern over privacy and security issue is evidenced in the survey result from Pew Internet. In average 83% of 3,492 respondents are concerns with the security and privacy of their personal information online and 90% express their fear that their information is sold or used for marketing purposes.

4. Preservation of Interest. Social media is about harvesting the enthusiasm of the crowd (Jackson et al., 2009). It is leveraged from fostering human relationship. Thus, maintenance of intimacy and sense of community is the key to the sustainability of social media site (Wasko, Faraj, & Teigland, 2004). However, it is very easy for users to lose interest, 47% of users in Pew Internet Survey delete their profile because they lose their interest on particular site. Within 5 years, the users of BEBO decline by 70% to just 12 million in 2010 (Gabbat, 2010).

The Impact of Social Media Attributes on Information Stewardship and Usefulness

In this section, it is argue that there are six challenges embedded in technology and users' related determinants of social media usage that might affect the design of information stewardship and usefulness (*refer to figure 1*).
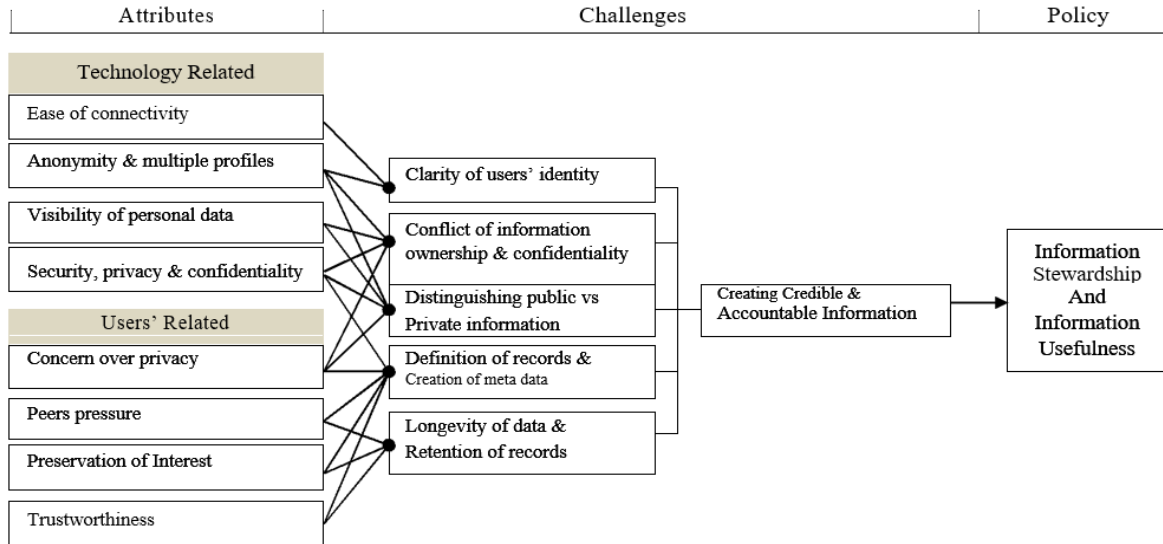

Figure 1.
Social Media Attributes & Challenges to Information Policy

Each of these challenges is affected and influenced by the technology and user' related determinants of social media usage. Single challenge might be affected by multiple attributes and one attribute might influence multiple challenges. For instance, the challenge of conflict of information ownership and confidentiality is influenced by visibility of personal data, systems' security and privacy, and perceptions of user over privacy.

Advanced in technology lead into perceived societal needs and create new dilemmas that require government responses in form of policies. Government need to create set of rules that govern the change in flows of information due to the technological advancement (Galvin, 1997). In creating the policies government has to consider two main categories, namely information stewardship and usefulness.

The Impact on Information Stewardship

Information stewardship refers to the principles that govern the accuracy, integrity, preservation, and protection of information (CTG, 2000), it concerns with handling information trusted during the relationship between government and citizens. The impact of the determinants of social media usage on stewardship of information reflects on two issues:

1. **Information credibility, integrity, and accuracy**

   Information integrity and credibility refers to the condition that the information harvested from the relationship or 'conversation' with citizens is usable. This relates to the condition that the quality of information is credible and accountable. Effort to ensure credible and accountable information is not easy. The excerpt below is taken from the interview of the founder of TSA blogs, indicate the importance of ensuring credible and accountable information.

"We had to work with IT Security and Legal to make sure we wouldn't start any fires. Legal also played a major part in crafting our comment policy."

Several determinants of social media usage might presents challenges in achieving credible and accountable information. First is the question of who to trust and what to trust. Social media facilitate anonymity and creation of multiple profiles. For instance, almost 51% of social network users have two or more profiles online. It is also very easy to create profile or even delete a profile. 20% - 24% of users ages 18-29 delete their profile out of boredom (www.pewinternet.org). This make the effort of credibility assessment harder, thus information exchange might deemed less accountable. Both TSA's blog and usagov facebook enforce credibility through rigid comments policy.

Second is the question of tracking data history and Meta data. Challenges of anonymity, multiplicity, peer pressure, preservation of interest, and ease of connect/disconnect affect the ability of government to define record and data, and to create Meta data. Meta data relate to the reason, rules, and function of data creation and intended users (CTG, 2000). Thus, the clarity of users' identity and retention of records becomes important part for creation of Meta data.

The third challenge relate to the peer pressure and preservation of interest. System administrators have to delicately consider the thin line between support of open expression and maintaining the control of content. This is not an easy thing to do. Blogger Bob, the founder of TSA's blogs asserts that:

'… *Transparency is a tricky thing when you're working for the government … and when we tell our readers we can't talk about something, it's kind of like telling an angry person to relax. They just get angrier.'*

The excerpt above signifies that moderating conversation between government and citizens is a delicate issue that should be managed carefully. Not to mention that due to the peer pressure, concerted group might push forward their agenda that might conflict the interest of general public. For instance, concerted effort of small but vocal group manage to put legalization of marijuana as first issue in change.gov list (Hochheiser & Shneiderman, 2010).

2. Security, Privacy, and Confidentiality of Information

The first challenge relate to the conflict of visibility and confidentiality. In certain social media tools, such as: a social networking site, visibility is not only related to their profile but also their connection. Thus, high visibility is conflicted with the extent of confidentiality of information posted in the site. 76% of respondent in Pew Internet survey express their concern on the easiness of others to detect their identity due to the visibility of profile. Second challenge is conflict of privacy and data ownership. The less stringent security in social media presents a concern over privacy of personal information. In average 60% of respondent in Pew Internet survey express their concern over the privacy of personal information by restricting access or limit the disclosure of information (www.pewinternet.org). In addition, guidance for privacy requirement is still lack in government agencies, as asserted by the founder of TSA's blogs.

"When we stood-up our TSA blog in January 2008, there was no guidance on what the reporting/privacy requirements were for government blogs."

The lack of guidance on privacy leads to the challenges to distinguish public and private information. To what extent that information exchange in the social media can be regarded as public information and which should be regarded as personal information.

The third challenge is the conflict of credibility and trustworthiness. Trust is the major ingredient in social community (Preece, 2001). Trust in the government agencies relate to the credibility of government online representation. Boosting public confidence regarding the identification of government online is important to encourage citizens' willingness to participate through social media. Blogger's Bob from TSA blogs state the importance of gaining public confidence.

> *"All "official" government systems must be hosted on .gov domains per FISMA (law). This gives the public confidence that they are interacting with the government and not a "phishing" (fake) government Web site.*

Ensuring credibility is easier for certain media such as blogs, than other. The easiness of creating a profile and connecting to social media sites make authentication of government online representation harder. For instance, we could find usajobs profile in facebook that is not actually belonging to government agencies.

The Impact on Information Usefulness

1. **Ensuring Information Access and Availability**
   Making the data ready to use and ensuring the good quality and ready availability of data generate from interaction using social media are the challenges affecting information usefulness policy. The difficulties relate to anonymity, multiplicity of profile, social connectivity, and preservation of interest will create challenges to the readiness and availability of data.

   In addition to the difficulties in clarifying identity, the distinction between authors and users become blur in the digital environment (Alina, 2010). In the social media such as blogs or Wikipedia, the users are increasingly become authors through communal participation. This condition leads to the issue of proprietary and ownership right. Who owned the data and to who consent to use data should be seek. Government need to differentiate which of the information exchange during interaction in social media fit into public information and which one are not.

   Users' perceptions on the concerns over privacy also vary. Pew Internet survey indicates that 60% of users restricting access to their profile and 58% only limits the person who can access their profile. Thus governments need to consider the extent of data that can be harvested from the users' profile. In the sense that government should consider which data that they could extract data from users' profile in designing policies related to information usefulness so that it will not conflicting with users' privacy and confidentiality.

   Since users' participation is voluntary and it is easy for user to disconnect from their service, maintaining users' interest might be difficult. The difficulty in maintaining users' interest affects the retention schedule that dictates the value and longevity of record for government database. For instance, it is very easy for users to delete their comments or profile.

2. Data sharing and public-private partnership

Social media interaction is purely voluntary. Concern over privacy and the ownership of information will affect the propensity of users to share information with government. Users will decide how they want to participate, what to contribute, and information they willing to share, and these will influence the quality of information sharing(Wasko et al., 2004). Aside from that, social and contextual trends might motivate or constraint participation in social media. Burden of everyday life demands could limit the interest for social participation (Hochheiser & Shneiderman, 2010).

Moreover, the establishment of trust is the prerequisite of sharing. Act of volunteering or sharing are part of pro-social behavior, thus significantly influence by the extent of trustworthiness between the users (Jarvenpaa & Staples, 2000). The accentuation of trust from the government can be reflected in the effort of government to safeguard the safety of information shared between citizens and government through social media. Pew Internet survey indicate that 83% of respondent express their concern over providing information online. Thus, this reflects the challenges in creating design for policies that induce trustworthiness of engaging with government through social media, hence increase citizens' encouragement to participate and interact with government using social media.

CONCLUSION

The emergent of social media has amplified the hopes of better and enhance relationship between citizens and government. However, despite the benefits, the process is not easy. Among other thing, the use of social media will affect the information policies. As expressed by the interviewee "It hasn't come easy though … But all in all, we've been able to make policy changes … It has to have some impact on the way we do business."

Several factors embedded on ambiguous users' identity and distinction of data ownership challenge information policies in term of stewardship and usefulness. Specifically, there are six challenges that are related to the technological and users' related usage of social media. These challenges should be consider in the design and development of information policy governing the steward and use of information.

The result presented in this paper is suggestive in nature. Further research is needed to ascertain the direction and influence of social media attributes to the challenges identified.

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