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# Achieving adoption and effective usage of Web 2.0 among employees within Australian government organizations

Adoption and effective usage of Web 2.0

41

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## Abstract

**Purpose** – Ensuring effective usage of Web 2.0 within government organisations is not as straightforward as it seems. The organisations should be aware of a number of issues when implementing Web 2.0 internally. This paper introduces a theoretical model that highlights the importance of management, technology and people issues influencing the level of Web 2.0 usage from an internal perspective. The purpose of this paper was to identify and explore these issues in a government context.

**Design/methodology/approach** – This paper uses a mixed-method (qualitative and quantitative) analysis to identify the issues that should be focused on for achieving effective usage of Web 2.0 among government employees. A combination of interviews, surveys and usage data collected from two government organisations was used to gather the data.

**Findings** – The main finding is that, a policy will act as an initial catalyst for culture change and effective usage of Web 2.0 technologies in a government environment. It was also found that it is important to develop an understanding among senior management about the motivation for their employees to utilise Web 2.0 internally. As a result, the proposed theoretical model could assist government organisations in developing effective adoption approaches through identifying their employees' motivation to adopt Web 2.0 technologies and developing a suitable organisational social media policy.

**Research limitations/implications** – There is the issue of the small number of both qualitative and quantitative respondents within the research. Such limitation is because the research relies solely on the voluntary participation of the employees. This limitation was coupled with the fact that both organisations had different security requirements that had affected the amount and level of feasible information that was accessible to the researchers.

**Practical implications** – This paper extends the understanding of issues applicable to the adoption of Web 2.0 tools from a government organisations' perspective. The developed theoretical model acts as an adoption guide for organisations to achieve effective Web2.0 tools usage. At the same time, this paper also examines related motivation aspects which higher management should consider while using a new social media or Web 2.0 platform internally.

**Originality/value** – This paper highlights suitable overview approaches for organisations to consider in increasing adoption of Web 2.0 among their employees. This paper also provides an initial



foray into identifying other complex issues that may exist within different government organisations in relation to internal technology usage.

**Keywords** Government 2.0, Internal usage, Employee motivation, Policy development, Risk mitigation

**Paper type** Conceptual paper

## 1. Introduction

The use of Web 2.0 technologies such as Facebook, YouTube and Twitter has been growing exponentially over the past few years because of the public's fascination with the complex connectedness of modern society (Musser and O'Reilly, 2006). This fascination has improved many facets of communication, and the improvements have not gone unnoticed by private organisations that have begun integrating the technology into their business activities with significant benefits. The integration of technology has also become common practice within government organisations, as Web 2.0 technologies are used within their work activities (Tapscott *et al.*, 2007).

When Web 2.0 tools were first introduced into government, use of the tools was not publicly highlighted (Hau-Dong *et al.*, 2010; Osimo, 2008). Such low awareness of Web 2.0 usage within government organisations could be because lower-level managers without official approval started such initiatives (Mergel, 2011; Osimo, 2008). The siloed culture and low level of transparency also led to the low awareness of, and internal usage of, Web 2.0 technologies (Dadashzadeh, 2010; McClure, 2010). Decisions within government organisations are also commonly made through a highly linear process, which results in longer turnaround times and larger amounts of paperwork (Bertot *et al.*, 2010; McClure, 2005). The situation is made more complex, as departments usually have different processes, which could suppress possible collaborative opportunities (Mergel, 2011; Picazo-Vela *et al.*, 2012).

As Web 2.0 usage among government organisations grows, more researchers are examining the technology's suitability in relation to external usage by the public (Carter and Bélanger, 2005; Hung *et al.*, 2006; Mergel *et al.*, 2009). With much of the focus on external usage, research on the internal use of Web 2.0 has received little attention. With the aim of addressing this gap, this paper presents an investigation into related issues that influence effective adoption of Web 2.0. This internal usage focus was also motivated by the need to develop a better understanding of these tools and, at the same time, lower the risks associated with using Web 2.0 internally within the context of government organisations. This paper's contribution is the identification of issues that limit effective approaches for using Web 2.0 tools within government organisations. Issues related to management, technical and people can be mitigated through an effective policy and an understanding of employees' motivation for use.

The next section of the paper first describes the research background followed by the related research methods and research results. Second, a description of the resulting model is given, followed by a discussion about the usefulness and possible future enhancements of the model. Finally, the conclusion highlights the contributions of the paper and areas for further research are suggested. In this paper, the terms "social media tools/Web 2.0 tools" are both used to represent tools with specific or non-specific Web 2.0 capabilities.

## 2. Literature review

Jan van Dijk labelled the twenty-first century as the “age of networks” where the importance of the network in society is comparable to our nervous system (van Dijk, 2006). With the evolution of the Web, multitudes of tools were developed to achieve the required level of interactivity and collaboration, such as social networking sites, blogs and many more (Hendler and Golbeck, 2008; Kinsella *et al.*, 2008; Vossen and Hagemann, 2007). These tools, coupled with the adoption of higher speed broadband connections, have created an environment where users themselves are unaware that they are continually using Web 2.0 tools indirectly (Eunice, 2011; Kim *et al.*, 2013). With the aid of these tools, users’ are expressing themselves publicly (Osimo, 2008; Van den Broek *et al.*, 2010). As a result, the users’ roles have changed from being content consumers to those of content creators.

As a result of these changes in users’ roles, Web 2.0 platforms such as Facebook, SlideShare and YouTube have begun replacing traditional business tools (Kaplan and Haenlein, 2010; Kwak *et al.*, 2010; Skeels and Grudin, 2009). Tools that are heavily utilised today include blogs, wikis, instant messaging and, to some extent, social profiles. Several research studies have provided perspectives into how personal lives and organisations are impacted by Web 2.0 tools. Examples include the work of Kaplan and Haenlein (2010) on social media impacts on users; Java *et al.* (2007) on the reasons for microblogging, Nissen and Bergin (Nissen and Bergin, 2012) on the implications of team performance through immersive virtual worlds; Ellison and Hardey (2013) on the impact of government-citizen relationships through Twitter; and Vuori (2012) on the uses of social media in a global corporation. There is evidence of increased interest among government organisations in utilising Web 2.0 tools, yet few studies have identified themes that support effective internal adoption of these Web 2.0 tools within government organisations. Daily work activities (both external and internal) such as information sharing between employees, networking, collaborative content development and general organisational communication occurs more frequently as these tools promote an effective and efficient communication channel.

The use of such social tools in this manner within government organisation is referred to as Government 2.0 (Mergel, 2011; Mintz, 2008; Van den Broek *et al.*, 2010), sometimes referred to as “E-government” or “digital government”. The underlying principle of Government 2.0 is to achieve sustainable work solutions by improving the internal and external processes of government organisations through lower running costs and improving work-related processing times (Mainka *et al.*, 2014). This view of improving communication internally as well as externally could be linked to the premise that the more employees an organisation has, the less productive each of these employees will be. This is a generalised view, but it has often been mentioned by various researchers (de Kool and van Wamelen, 2008; Gilchrist, 2007; McClure, 2005; Xiongfei *et al.*, 2012).

A recent survey conducted by the United Nations (2012) found significant developments in online government trends among countries, with the Republic of Korea leading the way, followed by The Netherlands, the UK and Denmark. However, the survey highlights that the results mainly reflect the improvement of the country’s online service delivery to cater to citizens’ needs. Such a statement further supports the importance of understanding internal usage among government organisations, especially as more advanced socially based Web 2.0 technologies are introduced and

adopted at a rapid pace. As these technologies have a constant impact on a user's daily life, a user could be influenced towards utilising these tools in their daily work, either officially or unofficially. A study conducted by [Mogbel et al. \(2013\)](#) found that the use of socially based technology increased job performance due to the employees' achieving job satisfaction through the use of these tools. A general adoption theory by [Mergel and Bretschneider \(2013\)](#) identifies that any new ICT technology is often utilised by "individuals who have some experience with the technology [...] from non-work related activities". As a result, multiple Web 2.0 technologies could be utilised for a number of work activities, which could improve organisational workflows. A quote by [Qualman \(2010\)](#), the author of *Socialnomics*, that "the power of social media is it forces necessary change" further supports the adoption stage highlighted by the general theory. Based on this need for change, this research provides a worthwhile opportunity to understand the adoption criteria to maximise the potential benefit of using Web 2.0 tools within government organisations. An effective understanding of these tools will allow government organisations to avoid unnecessary risks associated with technology and to implement appropriate processes that support internal usage among employees. With this understanding, it is anticipated that senior managers can develop approaches that lead to effective internal use of Web 2.0 technologies.

Based on the anticipated understanding of related issues, the following research question was developed:

*RQ1.* How do technical, organisational and personal factors within a government department influence the effective use of Web 2.0?

### 3. Research methodology

This research utilises both qualitative and quantitative approaches, as collaborative technologies such as social media platforms that are diverse and complex in nature. As such, no single approach can explicitly address the role and impact of a socially embedded technology within a society ([Ng-Kruelle, 2005](#)) and hence the data collection techniques for this research were quite diverse.

A qualitative data-gathering technique such as interviews is generally used in information systems research, where the researcher aims to achieve a deeper understanding of a complex phenomenon that is deeply embedded in its context ([Creswell, 2009](#); [Kaplan and Maxwell, 2005](#)). This approach provides insight into both users' and managers' views of their interaction with Web 2.0. The quantitative approach was followed because it provides verification and results that can be generalised through statistical analysis ([Steckler et al., 1992](#); [Walter, 2006](#), p. 35). This approach also provides supportive information in identifying issues that could assist in supporting the effective use of these platforms for internal usage.

The research data were collected from two large government organisations that were selected based on a number of criteria relevant to the research aims:

- must be a government organisation;
- large organisation for an effective sample size; and
- availability of employees to be interviewed.

Based on the mentioned criteria, a number of organisations were initially contacted via their general emails, phone calls and lastly, face-to-face meetings with the appropriate

contact persons, before the final two organisations was selected. The first organisation is a large government organisation in the broadcasting industry that provides television, online and mobile services and the second organisation is a statewide agency that provides services for the federal, state and local governments while providing policy advice for different leaders and working for the community. Both of these organisations were in the initial stages of utilising Web 2.0 tools as part of their daily work activities.

The research data were collected through a combination of surveys (81 participants via short survey and 85 participants via online survey) and semi-structured individual interviews (19 participants). Two separate surveys were conducted through a combination of offline (small number of questions) and online (larger number of questions) channels, where the participants were given a set of questions about the following:

- tools that participants deem useful;
- expectations from using Web 2.0 or social media tools in their work; and
- awareness of social media policy within their agency.

Data were collected from two semi-structured interview sessions conducted at different points in times with participants from both organisations. Based on the research question, the interviews focused on the participant's experience with social media and their reasons for using the technology. As the interview information is qualitative in nature, the interview analysis was conducted based on [Auerbach and Silverstein's \(2003\)](#) concept of "relevant text", where related information is recorded based on "what rises to the surface from the data".

Usage data were also collected from one of the organisations, as the organisation had successfully implemented an organisational-wide social media platform. The platform provided the researcher with usage numbers for four social media tools, namely, wikis, news feeds, microblogs and social profiles.

## 4. Research context

### 4.1 Organisational backgrounds

**4.1.1 Organisation A.** Organisation A[1] is a large government organisation in the broadcasting industry that provides television, online and mobile services throughout Australia. The organisation has around 4,500+ full-time employees as of 2010 who are spread across different locations in Australia. Many of the products that the organisation has released are quite well known, especially through its self-branded television channel. The number of employees has been steadily increasing since 2000, leading to communication difficulties across the organisation.

The interesting fact about Organisation A is that the Managing Director has shown great interest in using social media as part of his work. However, the focus of his interest is geared towards external use of social media by the organisation, because of the organisation's regular interaction with the public, which is typical of the nature of the industry. Organisation A initially began experimenting with new technology such as social media to attract and deliver the benefits of good information and news to larger audiences externally. This technology experimentation was also coupled with the emerging media landscape that focuses on digital platforms. Such changes required the



organisation to develop a long-term strategy in 2008 to compete with other broadcasting organisations effectively.

As part of the long-term strategy and due to its interaction with the public via social media, Organisation A decided to develop a social media policy to distil the organisation's communication policies in a simple and effective manner. The policy identified four essential regulations that guided its employees in using social media for official and private purposes, which, in summary, advised employees to act sensibly while protecting the organisation's reputation and activities.

Even though there was a high level of interest in external social media use, there was not much social media presence within the organisation other than the adoption of a third-party microblogging tool in early 2011. However, this had not halted the use of social media by employees within their daily activities. At the end of 2009, the organisation decided to replace its aging intranet system, due to its ineffective search capabilities, static one-way information flow and siloed branches of information. The new system adopted by the organisation was a socially based intranet system developed externally by a third-party developer. At the time of this research, the project for the new system was in Phase 1 where the gathering of requirements and the new system's implementation were the main focus. It was assumed that the third-party developer had a similar software environment to Organisation A that would allow the developed intranet platform to be implemented within the organisation but this was not the case.

*4.1.2 Department of premier and cabinet.* The Department of Premier and Cabinet (DPC) is a statewide agency that provides services for the federal, state and local governments while providing policy advice for different leaders and working for the community. The department consists of multiple sections or business units that provide services for decision-making, economic coordination, cultural development, public sector management and preservation of government records, to name a few. The high number of different business units within the department poses a challenge for the organisation, especially in terms of building a sense of a single, unified organisation. To provide a clear sense of the organisational structure, the overall structure of the DPC is referred to as the agency, while the other departments within the DPC are called "business units".

Employee data collected from the agency's 2010/2011 annual report as of 30 June 2011 showed that there were 1,200 current employees within the agency in total. Of this total, 1,107 were full-time equivalents (FTEs), while 93 were non-FTE employees. The number of non-FTEs was taken into account, as their working hours varied depending on their position and work activity. This would impact on the amount of usage depicted within the usage data report from the DPC's social media platform. The organisational structure underwent a major change near the end of the case study, which affected the business units within the agency. These structural changes impacted on the naming of some business units as well as on the users who were originally part of the DPC. Previously, some of the business units were not part of the DPC, but, due to the restructuring that occurred in late 2011, they formed part of the organisational structure that was effective from January 2012. Because of the number of business units under its control, the DPC relied heavily on the traditional intranet system that was implemented across sections to allow communication and mainly one-way information sharing. However, as indicated by Guan (2011), the level of transparency in traditional

governments is very low because of security issues that may arise through information sharing and this was the situation faced by the agency.

#### 4.2 Survey

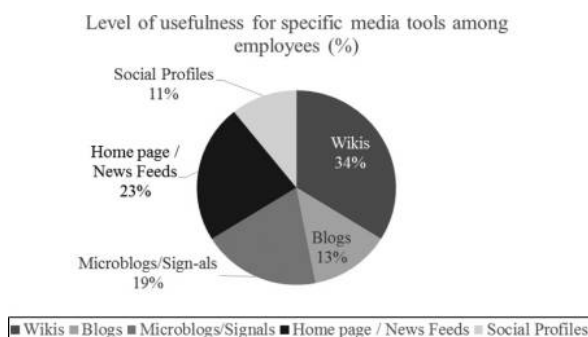
One of the main results from the short survey highlighted that 72.8 per cent of the respondents found social media useful in their work. A similar result was found from the online survey, where 70.6 per cent found the tools to be effective in their work.

The motivation for using these tools revolved around the collaborative capabilities and effective communication that social media provides within groups and across departments. Table I shows some of the expectations and motivations outlined by participants in the short survey, the reasons why they thought social media was useful to them and which tools were helpful in their daily work.

The majority of participants found the wiki tool to be the most useful. This was due to the collaborative aspect that the tool provides in collecting different information from different departments. Figure 1 shows the usefulness of specific social media tools collected from the surveys.

Why is social media useful?	Tools used
Shared records management information	Blogs, news feeds
Better communication and information management within and across team as well as organisation	Microblogs, news feeds
Improved information sharing within the team	Microblogs, news feeds
Ability to communicate quickly with a wider group	Microblogs, wikis, news feeds
Better communication, faster and targeted	Wikis, news feeds, social profiles
Ability to simplify communication by pulling together different media	Blogs
Work made easier—avoids restrictions posed by current ICT, easier to collaborate	Blogs, wikis, news feeds
Better organisation and tracking of projects	Microblogs
Opportunities for collaboration/social contacts in the DPC and team building	Blogs, wikis
Efficient and effective way to share information and problem solve, and reduces paperwork	Wikis, microblogs, news feeds

**Table I.**  
Usefulness of social  
media tools



**Figure 1.**  
Usefulness of specific  
social media tools



As part of our research, we aimed to identify the impact of a social media policy on the levels of social media adoption among employees. We sought to determine whether the policy deterred or supported their adoption of the tools. As both government organisations were in the initial stages of implementing social media tools, employees within government organisations are typically not aware of the existence of a social media policy. Both organisations had developed a social media policy to support their implementation of Web 2.0/social media tools. The surveys included a number of questions about the policy, such as the participant's awareness of the policy, the channels used to disseminate the policy and the clarity and consistency of the policy. The short survey indicated that only 39.5 per cent of the participants were aware of the policy. The online survey showed a similar result, where 43.5 per cent of the participants were aware of the policy. The low level of awareness could be due to the effectiveness of the communication channels. Most of the online survey participants indicated that information dissemination frequently occurs via the standard mass email channel (67.1 per cent). The choice of utilising this channel may have led to the varying levels of awareness, as employees often ignore bulk emails that are not specifically related to their work (Snyder and Cornetto, 2009). When asked about the clarity and consistency of the policy, 37.6 per cent of participants indicated that the policy within the agency was clear to them, while a small number of participants were indecisive about the clarity of the policy. The results also showed that 56.5 per cent of the participants opted not to respond to the question. Such a response could be due to the working environment within a government organisation that promotes a strict adherence to policies by employees (Bertot *et al.*, 2012a; Wickramasinghe and Nisaf, 2013). The result also appears to support that most employees traditionally view policies within government organisations as authoritative.

#### 4.3 Usage data of social media tools

One of the two organisations, DPC, had implemented an internal social media platform, which provided the researcher with usage data of four social media tools. During the initial platform implementation of 18 months, around 1,121 users had utilised the platform. The following scale was used:

*0 = No usage; 1-50 = Very low level usage; 51-150 = Low level usage; 151-300 = Medium level usage; 301-550 = High level usage; 551+ = Very active usage.*

Tables II and III show the different usage levels that exist among employees for each of the tools.

The usage data highlights that the employees utilised all four tools to some extent, although the percentage of users who used (56 per cent) and viewed (67.3 per cent) social profiles were both within the "very low usage" level. This shows that most users were not mainly concerned about their social profiles. The results refute the concerns of senior

Usage activity Frequency (%)	Used a wiki (%)	Viewed a wiki (%)	Customised homepage/newsfeeds (%)
Very low usage	43.5	45.2	35.9
Low-level usage	4.6	20.7	4.4
Medium-level usage	1.8	9.6	1
Very active usage	1.3	9.9	0.6

**Table II.**  
Usage trends for wikis and news feeds

managers about the risk of using Facebook in the workplace. The results from the usage data also indicate the most useful tool. Most employees preferred to view wikis (45.2 per cent) and edit wikis (43.5 per cent). It is obvious that a high number of information creators (51.9 per cent) use the platform. The wikis included useful information such as policies, minutes of meetings, project reports, budgets and more. This supports the finding of Zeiller and Schauer (2011) that not all employees would be fully utilising a new technology, but that it depends on their needs for the tool.

The result of the microblog tool indicated that employees were more interested in consuming the available information (70.4 per cent) if it had some relation to their work. Regarding news feeds, which were also provided to the employees, the usage numbers remained at the “very low” level (35.9 per cent). The results of Tables II and III show that even though general use of the tools fell within the “very low” levels, the majority of employees were, in fact, using the tools for short periods of time during their working hours.

## 5. Results and discussion

### 5.1 Identified themes

The next step of the analysis was to identify themes that existed within the relevant text. The themes were then categorised based on the Technical/Organisational/Personal (TOP) framework, which allows the construction of a conceptual scheme that suits the data. As this research focuses on identifying the related socio-technical themes, the TOP framework by Mitroff and Linstone (1993) is suitable, as it allows a researcher to view an issue or problem in different ways (Linstone, 1999) or to achieve the “fifth way of knowing”. Wood-Harper and Avison (2003) also highlight that a multi-view perspective can assist a researcher in identifying issues that may relate to each other. Different perspectives on an issue and the evaluation of each of the perspectives, enables a more holistic solution to an issue.

The results from both organisations highlighted a number of factors that directly or indirectly impact the sustainability of Web 2.0 adoption within government organisations. The identified themes from both of the organisations are summarised under each of the TOP categories below:

*5.1.1 Category: technical.* Both organisations are limited in terms of available resources. Such resource limitations exist because government organisations need to bid for resources, which can be along and involved process. Such resource bidding can lead to highly fragmented technology implementation within large organisations. As a result of the technology fragmentation, employees tend to be frustrated and often overlook the benefits of technology, such as social media, in their work. By standardising technology implementation, government organisations are able to provide their employees with the capability to communicate effectively with each other.

Usage activity Frequency (%)	Used a micro- blog (%)	Used their social profiles (%)	Viewed social profiles (%)
Very low usage	70.4	56	67.3
Low-level usage	2.1	1.6	12.5
Medium-level usage	0.3	0.2	2.9
Very active usage	0.2	0	0.3

**Table III.**  
Usage trends for  
microblog and social  
profiles

At the same time, the amount of information duplication could be lowered, as the tools facilitate central collection of the relevant data, making it accessible to all employees.

Supporting roles such as trainers and coordinators in the adoption of social media were limited within both organisations. Adequate support for Web 2.0 training is essential as such support enables employees to develop a competency in using the new tools in their work (Arasanmi *et al.*, 2011). Government organisations need to realise that implementing Web 2.0 tools without training or some level of promotion will not lead to successful adoption within the organisations.

*5.1.2 Category: organisational.* Our research results show that the management style that was prevalent in the selected organisations was more *autocratic* than persuasive. This management style does share some similarities to a persuasive management style, but the main difference is that top management still retains total control over any decision-making process and does not attempt to persuade their employees in regards to any decision made (Malone, 2004). However, there are a few managers within both organisations that do spend some time convincing their subordinates that their decision was the most appropriate solution. This indicates that there are some managers that are slowly trying to implement a more persuasive management style within the organisations. One of the main issues that was highlighted in both organisations was the organisational structure. The structure seemed to promote a high level of information siloes among their internal departments, which has led to emerging hostile and protective behaviours among the departments. A change to a more effective organisational structure could easily solve the issue but from a real-world context, such a solution would be difficult. This is because the existing structure represents executive managers' perspective in achieving the organisation's aims. Therefore, any changes to the structure would require time and effort, as well as the agreement of the relevant managers.

The support from senior managers also does not necessarily cascade to other management levels (e.g. middle and lower management). By promoting a level of understanding or awareness from management, employees' interest and effective use of social media could increase. Because of the inherent risks with social media, the participation of senior managers in social media training could slowly change their working habits and eliminate adoption barriers among middle-level management (Weerakkody *et al.*, 2013). The managers could utilise the tools without worrying about saying the wrong thing or being fearful of losing their job or respect when another person comes up with solutions. At the same time, employees are much more comfortable with utilising the tools if they have the support of higher-level managers (Kaushal, 2011).

Government organisations are traditionally perceived as highly controlled environments (McClure, 2010). In essence, the culture that exists within the selected organisations was *siloed* in nature. It could be assumed that such environments are prevalent in many government/non-government organisations (Mergel, 2011). Therefore, the level of trust between employees and managers is low. The perception of trust between senior management and employees is essential, as it allows an open communication channel within the organisation. From the interviews, employees are generally interested in utilising the tools in their workplace. The impact of a highly controlled environment that acts as an external barrier could be mitigated through granting increased autonomy to employees and by implementing social media tools in

stages throughout the organisation (Onyechi and Abeysinghe, 2009). The increased autonomy of employees through a less authoritative approach from higher management would be beneficial. This signifies that management trusts their employees, which generally instils a positive attitude towards their employer. The staged implementation approach is beneficial, as employees are not pressured to upgrade and have time to accept the new technology. At the same time, such an approach could allow the managers to also learn how the new systems could benefit in their daily work.

The working culture within an organisation also plays a role in the adoption of Web 2.0 or social media tools. A non-conducive culture, where employees are left to discover the tools themselves would lead to ineffective use of the tools (Kugler and Smolnik, 2013). Such a culture would inhibit knowledge sharing between managers and employees. Knowledge sharing within government organisations does not occur widely, which impacts on the use of social media tools. The use of these tools represents a new approach to working culture that requires breaking down deep-rooted biases that inhibit government organisations from deriving benefit from the tools.

*5.1.3 Category: personal.* A level of negative perception about Web 2.0 or social media tools exists within the selected organisations. One of the organisations had an information leak through social media, which became a huge security issue for the organisation. The other organisation, on the other hand, consistently had employees posting personal information on their internal Web 2.0 platform that may have annoyed other employees. Both of the issues seem to have been supplemented with the established siloed structure that existed in both organisations.

Zeiller and Schauer (2011) highlighted that motivation as well as the behaviour of users does impact the level of adoption of technology in any organisations. So, senior managers should also realise that their employees have different internal motivations when adopting Web 2.0 or social media tools. Some of the internal motivations are their personal interest in social media, to communicate or collaborate with other employees and, to be more productive in their work. All the internal motivations that were articulated by the employees could be related to their individual perception of the tool's usefulness in their work (DiMicco *et al.*, 2009; Picazo-Vela *et al.*, 2012). By relating the use of the Web 2.0 or social media tools to the context of the employees' work, employees would be naturally interested in utilising the tools with some enthusiasm. This statement is also supported by research conducted by Oliveira and Welch (2013) which found that relating the use of Web 2.0 tools to specific work activities could enhance adoption among employees.

Social media tools are actively used in almost everyone's private life and organisations can benefit from these personal experiences and an understanding of the effective use of social media. However, the benefits of using social media tools in their daily work should be highlighted (Paroutis and Al Saleh, 2009). The ability to perceive the benefits of social media tools is impacted by a combination of their personal views of the tools as well as management support. Employees should, therefore, be encouraged to use social media tools with a clear view of the tools' usefulness to their related area of work (e.g. promotion of internal social media tools among technicians who work outdoors in developing their monthly group work reports). Such an approach can be achieved with social media training sessions and other supportive approaches (social media coordinators or representatives). The training sessions and other supportive

approaches can highlight the usefulness of social media specifically for their target audience.

### 5.2 Proposed model

Initially, the model included two areas of interest, namely, policy development and user motivation, which could lead to the adoption of Web 2.0 within government organisations. These two areas were derived from a combination of the research aim and the initial literature review. Specific themes or issues were derived from the research data and categorised accordingly to the TOP framework. However, it became apparent that the original categories only provided a very general coverage for the issues, which was not entirely effective. To effectively categorise the identified themes or issues, the categories were either renamed or changed to appropriate categories within the TOP framework.

The revised TOP framework developed by analysing the research results incorporated a number of changes. The organisational category (O) was separated into two new categories, namely, management and culture. The main reason for this separation was the effective categorisation of the issues without losing the original meaning of the category. [Mitroff and Linstone \(1993, p. 45\)](#) labelled the O perspective as “the organisational or societal view that examines the relationships between organisations or parts of a system; both informal and formal”. This label was found to be one dimensional at best as the perspective attempts to cover many themes within itself ([Hillier, 2002](#); [Wood-Harper and Avison, 2003](#)). According to [Mitroff and Linstone \(1993, p. 20\)](#), “the most limiting constraints in building a model or representation of a problem are usually imposed not by the problem itself but by the mindset of the problem solver”. To overcome this constraint, it is essential to understand each issue ([Hillier, 2002](#)). If more perspectives are available, the identification process of an issue’s “true nature” will be more effective.

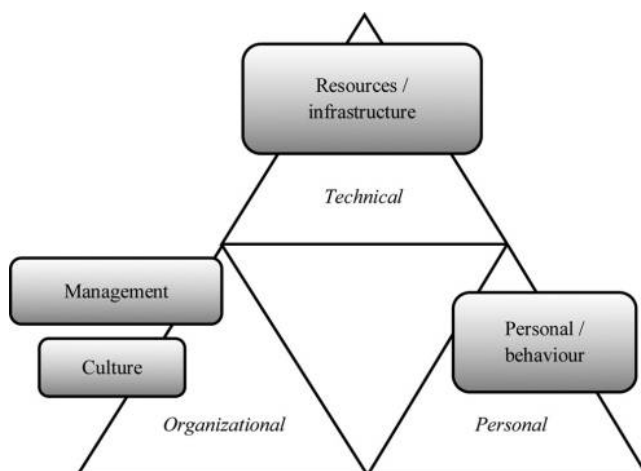
Based on the research results, a culture category seems suitable as some of the results relate specifically to the way of thinking in a place or organisation ([Alvesson, 2012, p. 5](#); [Dasgupta and Gupta, 2013](#); [Rahmati, 2002](#)). To effectively categorise specific themes or issues, the organisational category was separated into two additional categories, namely, Management and Culture. The extended categories suitable for clustering the identified research themes are described below:

- *Management*: As highlighted earlier, the culture within both organisations is autocratic in nature, but there are a few senior managers that are trying to implement a more persuasive management style. This could be due to the implementation of the internal social platforms, which provide some freedom of expression among the employees. Fundamentally, this perspective consisted of a number of management-related issues such as management awareness, top-level management support, privacy issues and the availability or lack of champions for social media within the organisation.
- *Culture*: The siloed nature of the organisations is still prevalent, leading to a number of issues as identified under this theme. The issues included in this perspective were communication breakdowns occurring among employees, the working culture among employees, knowledge-sharing culture and training-related issues.

- *Resources/infrastructure*: Based on Oliveira and Welch's (2013) research on the impact of technology in organisations, it seems important to include resources and infrastructure as a theme. This perspective included the socially based technology used within the organisation, the implementation process undertaken for the technology and the impact of social media tools on the working environment of the organisation.
- *Personal/behaviour*: This perspective refers to the behavioural aspects of the use of social media, such as positive or negative opinions from individuals based on their personal experience when using social media, etc.

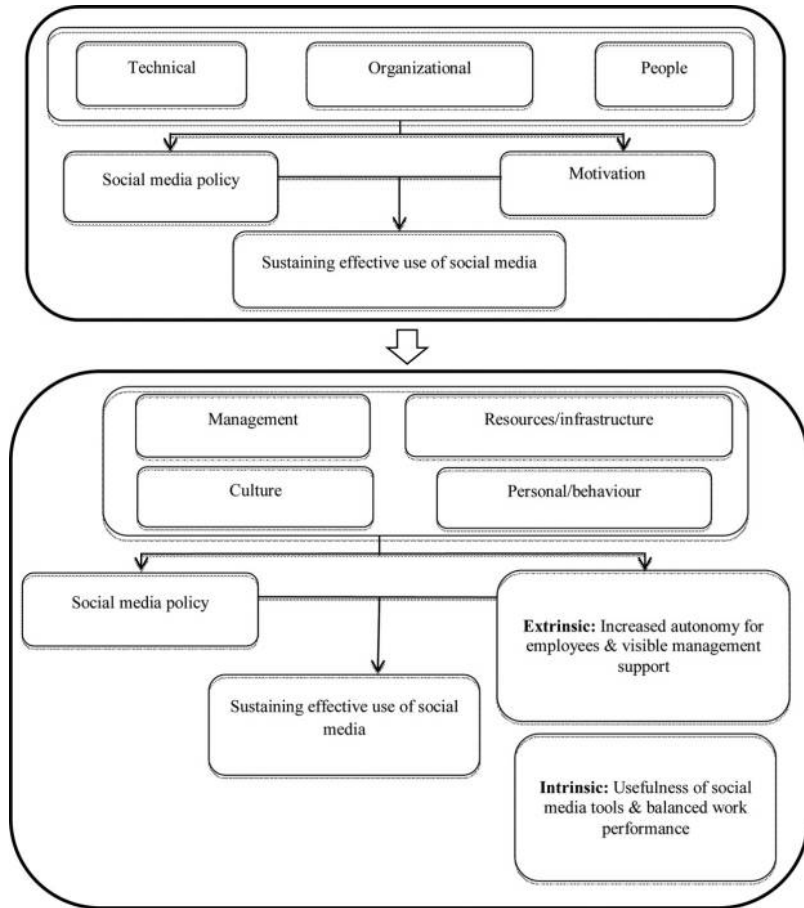
The extended categories were then mapped to the original perspectives based on the researcher's interpretation (Figure 2) to highlight their relation to the original TOP framework. With the TOP framework as a general thinking lens, the model was then adapted to include the three main categories. The categories were extended to management, culture, resources/infrastructure and personal/behaviour to accommodate the emerging themes and issues from the research data. The categories highlight specific areas that could be improved to achieve sustainable Web 2.0 adoption or usage among government employees. It has been identified that there is a need for an initial change catalyst within government organisations to support such improvements.

As government organisations are commonly reliant on policies (Bertot *et al.*, 2012b) to dictate change or processes, the use of a Web 2.0 or social media policy could act as the initial catalyst without constraining usage of Web 2.0 tools. Along with the use of policy, understanding the motivation of users (internal and external) can also assist organisations in achieving effective internal usage of Web 2.0 among employees. Figure 3 illustrates the finalised model from this research. The model was designed based on Occam's razor principle (Domingos *et al.*, 1999) to provide an effective and simplified guide for government organisations in implementing Web 2.0 tools internally. Based on the research results and the utilisation of the TOP framework, two approaches are suggested:



**Figure 2.**  
The extended  
categories in relation  
to the original TOP  
framework





**Figure 3.** Model for effective use of Web 2.0 technologies within government organizations

- (1) To develop an understanding of employees' motivation in utilising Web 2.0 tools.
- (2) To develop and utilise a suitable social media policy which enhances the benefit of the tools.

*5.2.1 Understanding the employees' motivation in utilising the tools.* The research highlights that developing an understanding of the motivation of employees to utilise a tool is essential. From an external motivation point of view, some government organisations are prone to enforcing the use of tools without much thought while other organisations are so complex in structure that the effective use of tools such as Web 2.0 is blocked almost immediately. The environment within government organisations also does not promote constructive criticism among or between employees and higher-level management. Such an environment exists due to the cascading authoritative organisational structure that also contributes to the low level of trust (Mergel, 2011).

This approach is not conducive to achieving effective use of Web 2.0 tools internally. Therefore, only a low level of trust exists between employees and higher management.

The perception of trust between senior management and employees is essential, as trust allows the open communication required for social media tools to function effectively within organisations (Pinjani and Palvia, 2013). The impact of a highly controlled environment that acts as an external barrier to effective adoption of social media among employees could be mitigated through granting increased autonomy to employees and by implementing social media tools in stages throughout organisations (Eardley and Hyatt, 2009). By providing a level of autonomy to employees in selecting related work tools and visible management support, desired outcomes could be achieved. Such increased autonomy and staged implementation could be perceived as external motivators for employees to adopt social media tools. Employees are generally interested in utilising social media tools in the workplace, so the fear of misuse among employees is unfounded. The increased autonomy of employees through a less authoritative approach from higher-level management would be beneficial.

It is also essential for government organisations to understand their employees' internal motivations for usage. From our research, we identified that their employees may have different internal motivations when adopting and using social media tools. Some internal motivations for using social media are their personal interest in social media, to communicate or collaborate with other employees and to be more productive in their work. All the internal motivations that were articulated by employees could be related to their individual perception of the usefulness of social media tools in their work (Holtzblatt *et al.*, 2010; Zeiller and Schauer, 2011). By highlighting the usefulness of the Web 2.0 tools, employees would be aware of how to effectively utilise the tools in their daily work. Training sessions that focus on the related criteria could provide employees with working examples such as sharing information within specific work groups or even developing interdepartmental documents that would normally require a lot of time and effort. Such an approach would be valuable as employees are naturally interested in utilising a tool if they believe the tool will allow them to be more effective in their work (Lin, 2007; Parveen *et al.*, 2014).

*5.2.2 Developing a suitable and effective social media policy.* Government organisations are also prominent users of policies as a means of control, which may negatively affect the benefit of utilising a socially based tool such as Web 2.0 (Bertot *et al.*, 2012b; 20, McClure, 2005). As such, developing suitable policies for the use of Web 2.0 was also found to be essential from this research. The policy could act as a general guide for both new and current employees who are interested in utilising Web 2.0 as part of their work. Questions such as level of information that could be shared through the tools and how interactions between employees are seen could easily be answered through the policies.

Thus, we developed a social media policy development framework named the Social Media and Organisation Policy (SOMEOP) (Husin and Hanisch, 2011), which focuses on guiding organisations to develop relevant, yet flexible policies, that straddle between two aspects. Those aspects include:

- (1) strengthening the related legal obligations and impacts for employees which are deemed necessary by the organisation; and
- (2) possessing sufficient flexibility to allow the organisations to benefit from the use of the tools.

The framework consist of five main components (Figure 4), which were derived from the combination of the standard communication policy development and the analysis of characteristics necessary to reap substantial benefits from social media tools (Bertot *et al.*, 2012b; DiMicco *et al.*, 2009; Picazo-Vela *et al.*, 2012; von Solms and von Solms, 2004). Table IV highlights the description for each of the components.

### 6. Conclusion

This research identified the factors or themes that lead to the effective adoption of social media or Web 2.0 tools within government organisations. Some of the themes include:

- management support for utilising the social media tools;
- ensuring a perception of usefulness among employees;
- the cultivation of a transparent working culture; and
- standardising technology implementation within the organisations.

These key areas could assist organisations to establish a level of innovation acceptance, especially within a traditional work environment such as a government department. These areas would also provide guidance for employees in relation to adopting social media tools as part of their work.

Change usually requires an initial catalyst within government organisations and the literature and research results indicated that a policy could be utilised as a suitable guideline for managing such change. A SOMEOP framework was developed, which would satisfy management’s need to have some control and, at the same time, provide some flexibility for employees to creatively utilise social media technologies. The research results also emphasised that government organisations need to have an understanding about the motivational issues that influence the adoption of social media technologies. From an extrinsic perspective, government organisations seem to have a low level of trust among employees and their management, which may indirectly influence the tools that employees would use. By promoting a higher level of autonomy for employees in terms of completing their work processes, trust can be cultivated within government organisations.



Figure 4. SOMEOP components Husin and Hanisch (2011)

Component	Description
Legal obligation	Both Flynn and Kahn [20] as well as Gensing – Pophal [22] highlight that legal issues are important for organisations to consider, especially within governments. The related issues within this component include impacts of specific actions, misrepresentation and the rights of both organisation and employees
Different levels of management	People are considered to be one of the main security issues when it comes to the level of policy compliance within most organisations [6, 14, 71]. As most policies are usually developed by higher-level management, the inclusion of different viewpoints from other levels could potentially assist in developing a more succinct and relevant policy that is acceptable for all
General and concise statement	Statements within policies are usually complex and highly authoritative in nature which may impact on the perception of employees on the policy [29]. A conversational tone coupled with lower technical jargon is more likely to be accepted by employees
Social media etiquette	Improper digital etiquette is an issue that has been slowly rising since the advent of social media tools [58]. As such, this component plays an important role in developing an effective policy. Organisations are prone to specifying every action for their employees that may hinder their employees' ability to work collaboratively or competitively in their business areas [19]. It is essential to provide "general yet sensible statements" so employees are not intimidated in using the tools
Notification and standardisation	This component highlights the importance of utilising proper communication channels to disseminate information on the policy. By utilising the established social media channels such as microblogs, news feeds, etc., employees would be made aware of an organisational policy. At the same time, it is also essential for the policy to be highlighted during any training sessions that are conducted by the organisation in regards to social media tools to improve the standardisation and awareness among the employees

**Table IV.**  
SOMEOP  
components  
description

Intrinsically, the usefulness of social media technologies to the employees' areas of work is not often visible, which impacts their motivation to use the tools. To address these two issues, government organisations need to provide increased autonomy (flexibility in conducting daily work activities without excessive control through processes and structure) for employees in their work activities. Relating the usefulness of social media technologies specifically to employees' areas of work also ensures that employees are aware of how the tools can be used in their daily work, thereby increasing their intrinsic motivation to use the tools. The crowding-out effect can occur within government organisations and revolves around the individual's need to be rewarded accordingly for their work. This requires government organisations to find a balance between promoting individual achievements and acceptable work performance among their employees to avoid crowding-out their motivation to utilise social media tools.

As part of the future research, the motivation issues that were identified within this research, both intrinsic and extrinsic, could be expanded and compared with results from the private sectors. The motivation issues could be compared to these additional results which may lead to a more general applicability to organisations adopting social media tools in their daily work. The research also identified specific themes from four

perspectives, all of which influenced the sustainable and effective use of social media tools within government organisations, namely, wikis and microblogs. It would be useful for future research to test whether the identified issues exist for each of these highly utilised tools. This research will enable the development of specific adoption approaches influencing the sustainability and effective use of specific tools within organisations. These future research suggestions would enable the research results to be effectively extended as the use of social media tools offers benefits for government organisations and their employees in the long run. Achieving the desired level of effective usage could facilitate the sustainable adoption of social media tools as users are provided with “a space in which the human voice would be [...] rediscovered” (Levine *et al.*, 2000, p. 1).

#### Note

1. To fulfil the confidentiality requirements from Organization A, the name and any identifying information regarding the organization is kept confidential. The organization has requested to remain anonymous in any publications derived from this research.

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