Organisational Semiotics Methods to Assess Organisational Readiness for Internal Use of Social Media

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ABSTRACT
The paper presents organisational semiotics (OS) as an approach for identifying organisational readiness factors for internal use of social media within information intensive organisations (IIO). The paper examines OS methods, such as organisational morphology, containment analysis and collateral analysis to reveal factors of readiness within an organisation. These models also help to identify the essential patterns of activities needed for social media use within an organisation, which can provide a basis for future analysis. The findings confirmed many of the factors, previously identified in literature, while also revealing new factors using OS methods. The factors for organisational readiness for internal use of social media include resources, organisational climate, processes, motivational readiness, benefit and organisational control factors. Organisational control factors revealed are security/privacy, policies, communication procedures, accountability and fallback.

Keywords
Organisational semiotics, organisational readiness, social media, enterprise 2.0.

INTRODUCTION
Social media (SM) tools offer organisations an alternative way to communicate, connect, cooperate and collaborate (Cook 2008) through rich user experience. Social media is enriched by user participation, openness and network effects (O’Reilly 2007). The use of social media is expected to significantly increase; however, despite the transformation these online tools could provide, there is a slow rate of adoption of Web 2.0 technologies by businesses (Newman and Thomas, 2009). This slow rate of adoption is due to several reasons: policies and procedures that inhibit change, privacy and security issues, and organisational culture being directly opposed to the open source and collaborative methods utilised in Web 2.0 (Newman et al. 2009). In addition, organisations lack an understanding of how to use the different tools, measure the effectiveness (HBR 2010) and fail to realise their potential benefits in developing a sustainable competitive advantage (Newman et al. 2009). One way to reduce the risks of failure in adoption is to assess an organisation’s readiness, or predisposition to adopt these new tools (Snyder-Halpern 2001). Readiness assessment will provide an organisation with an understanding of the necessary requirements and areas of improvement prior to adopting these tools. There are various methods to assess readiness, however, as social media’s (technology) focus is on people and communities (human), and changes the way in which people work (processes) it is important to use a method which bridges the gap between these factors. Additionally, current research does not offer a systematic approach to assess organisational readiness. Organisational Semiotics (OS) has been applied to analyse requirements of information systems. Therefore, the aim of this paper is to apply OS methods to assess organisational readiness for internal use of social media tools in information intensive organisations.

BACKGROUND
In order to explore the notion of organisational readiness for internal use of social media from an OS perspective, the concepts of social media, organisational readiness and organisational semiotics will be introduced. This section will discuss the background and previous research in each of these areas.
Social Media

Social media can be defined as a “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (Kaplan and Haenlein, 2010 pg. 61). The use of these emergent social tools within organisations is known as Enterprise 2.0 (McAfee 2006). Blogs, microblogging, wikis, podcasts, social networking websites, video and RSS feeds are the most common types of social media technologies used for internal business activities. All of these tools can be used within an organisation to support or replace their current communication, cooperation, collaboration and connections efforts. Some examples of use include, social media use to manage and develop business information and knowledge assets (Tredinnick 2006), administrative tasks and information dissemination (Murchu and Decker, 2004), including recycling and creation of knowledge (Zhang and Herbert, 2009). Other business uses include, content generation, community building, decision support and project management (Chui and Roberts, 2009). While there have been studies of individual adoption of social media technologies (for example, (Ridings and Gefen, 2004; Wang, Xu and Chan 2008)), adoption of social media by organisations, in particular for their internal use, has not been well explored.

Organisational Readiness

Armenakis, Harris, and Mossholder, (1993) propose that readiness is a precursor of resistance and adoption behaviours and argue that it is vital for an organisation before attempting to implement and manage any kind of change (Armenakis et al. 1993). This has agreement from change management research (Kotter, 1996). Assessment of organisational readiness provides an understanding of how prepared the organisation is for change while identifying the gaps. It has been found that organisational readiness was the strongest predictor of employee commitment to the organisation and thus more likely to commit (Ingersoll, Kirsch, Merk, and Lightfoot, 2000). Approximately 70 per cent of all change programmes fail (Balogun and Hailey, 2004), however, it has been shown that when an organisation has a higher level of readiness then the innovation risk is lower followed by a more successful innovation outcome (Snyder-Halpern 2001). Organisational readiness for change at the organisation level may be useful for theory and research on the implementation of complex innovations where collective, coordinated action by many interdependent individuals contribute to the change effort (Walinga 2008).

Organisational readiness research has evolved from change management theory (Armenakis et al. 1993) and behavioural science theory (Snyder-Halpern 2001). Previous empirical and conceptual research has been from various industries, e.g. business, healthcare, and perspectives at both the individual and organisational level readiness (Weiner, Amick, and Lee, 2008). However, little research has been done in regards to a holistic organisational level approach to organisational readiness which investigates the intertwining of the human, technical and business aspects which is vital for the use of social media tools within an organisation. Other researchers suggests that these three aspects need to be considered in adoption decisions (Molla and Licker, 2005a), thus readiness. For these reasons an organisational semiotics (OS) approach is considered, as it allows for such an analysis through further investigation into the relationships between the organisation, business processes and the technical systems. OS may also provide a systematic approach to assess organisational readiness.

Organisational Semiotics

Organisational Semiotics views an organisation as an information system comprising of social norms. OS states that the key to an organisation’s success is the coordination and cooperation of organisational activities, which lie in the norms that define the responsibilities and establish patterns of behaviour (Liu 2000). OS applies semiotic concepts to the analysis and design of organisations and information systems (IS) focusing on signs and sign systems which are created in business operations (Liu 2000). It is important to begin the IS analysis with understanding the organisation, which can help identify problems and improvements. This can be achieved through the various ways of business and analysis modelling. While models provide a static a general view from a particular viewpoint, they can provide clarity to complex environments and may lead to new discoveries (Mortensen 1972). Researchers classify business analysis and modelling based on process, behaviour and data, others apply four views: functional, behavioural, data and system architecture (Wieringa 1996). However, the semiotics perspective concentrates on the relations among the IT system, business process and organisation (Liu 2000). It also offers a range of methods and frameworks to analyse and design firms (Liu 2000).

Organisational Containment Analysis

According to Liu (2000), organisational semiotics views an organisation as an information system comprising of social norms. The social norms form the system comprising of the informal, formal and technical, known as the ‘organisational onion’. An organisation’s norms develop as the informal norms, such as; culture, beliefs, values, habits and individual behaviour become more regular, which can then be formalised in the formal layer. This middle layer contains bureaucratic forms and rules guiding the individual action—“how work should be done”—which can replace meaning and intention in the
informal system with codified systems. As the norms become highly repetitive, information and communication technology (ICT) are used to automate some parts of the formal systems in the technical layer. The layers provide support for each of the outer layers; the formal supports the informal and the technical supports both the formal and informal systems.

Organisational Morphology

Rather than viewing the organisation through the hierarchical structure, OM offers a different approach to analysing an organisation through the function (behaviour)-level (Liu 2000). This type of analysis provides a look at the morphology of the tasks and functions through identification of three types of norms: substantive, communication and control. According to Liu (2000), substantive activities are those that contribute directly to the core organisational objectives and can be viewed as essential to making the organisation function. The communication activities are required to inform people and coordinate actions within an organisation. These communications can be about relevant facts, procedures, and actions (what actions, when to perform and who is responsible). Organisational communications support the substantive activities and can link the substantive activities to each other. Lastly, the control norms will aid in reinforcement of the substantive activities while insuring that they are performed properly through monitoring and evaluation, along with rewards and punishment. The reinforcement may be achieved through both informal and formal norms (rules and regulations) (Liu 2000). In a healthy organisation the substantive activities should consume more energy and resources than the communication and control activities (Liu 2000). Therefore, a healthy organisation should be making effective use of information to carry out its substantive tasks.

Collateral Analysis

Collateral analysis helps in analysing the relationship between system units that create a complex system; it concerns the central system and its infrastructure (Simoni and Baranauskas, 2004). It is a method that helps identify the sub-unit systems, by taking apart the larger complex system around the focal system (Liu, 2000). For the purposes of this paper, the focal system would be the proposed system e.g. social media implementation.

In summary, social media tools offer organisations new ways of communicating, connecting, cooperating and communicating (Cook, 2008) both externally and internally. Despite the potential benefits of these tools, organisations are reluctant to fully adopt them because they may not be fully prepared or ready to implement such tools. As of yet, there has not been a systematic approach to assess readiness for internal social media use. Social media relies heavily on the social and cultural aspects of an organisation, so OS methods namely; containment analysis, organisational morphology and collateral analysis will be applied. Additionally, collateral analysis is an IT business co-design method approach towards bridging the gap between an operational IT system and current business requirements in an organisation. The following sections will further explore the OS methods applied to organisational readiness through modelling the internal social media activities. This will enable us to understand the requirements of readiness from the perspective of technical systems, business processes, and organisational culture in terms of norms.

OS METHODS APPLIED TO ORGANISATIONAL READINESS ANALYSIS

This section will cover the application of OS techniques; organisational containment (organisational onion), organisational morphology, and collateral analysis to determine the factors of readiness for social media use in IIOs. An analysis of IIOs that already use social media tools coupled with literature review has been used to provide a more complete analysis. The socio-technical factors influencing social media adoption in business were analysed in previous research (Askool, Jacobs, and Nakata, 2010) using containment analysis, so a brief overview of these findings and how it relates to organisational readiness will be discussed.

Containment Analysis for Internal Use of Social Media

An analysis of the socio-technical factors that contribute to adoption of SM by a firm found that SM adoption within a business environment can produce the benefits of enhanced communication, collaboration, cooperation and connections that increase productivity and profit (Askool et al., 2010). The findings from the organisational containment analysis have helped to identify socio-technical factors that contribute to adoption of social media within an organisation. These findings, summarised in Figure 1, can be considered enablers or inhibitors, which can then be considered as factors for organisational readiness assessment.

This analysis was achieved through a scoping study by distributing a questionnaire to a group at an IT consulting firm – an information intensive organisation. The purpose of the questionnaire was to obtain a general picture about how information-
intensive firms are currently communicating with external and internal clients with a particular focus on the use of SM. The questionnaire included general questions on what type of communication channels are being used for internal and external communication followed by other questions such as the benefits of using SM, and their concerns about using SM.

**Figure 1 Respondent’s Concerns Related to SM Usage (adapted from (Liu 2000))**

The respondents’ concerns were analysed for each of three layers of the “organisational onion” model. In relation to the **Informal** layer, respondents stated that using SM as internal communications tools have helped them meet their business objectives by improving communication and increasing productivity. Other respondents agreed that SM offered a way to transfer knowledge, increase innovation, and teambuilding. These responses can be associated to the **Formal** layer as they mention that although traditional communication channels are the norm, the use of SM tools is increasing. However, accountability, lack of control and SM usage policies are concerns that were mentioned. In terms of the **Technical** layer, the tools used are internet and mobile technologies. It also revealed that security and privacy are the main issues when using SM.

In summary, the organisational onion allows us to view the organisational (informal, formal and technical) norms of an IIO that develop with social media use. This analysis can aid other organisations to prepare for adoption of these tools, by highlighting some of the norms necessary for use, which can be seen as factors for readiness.

**Organisational Morphology of Social Media Functions**

As stated previously, OM offers an analysis of an organisation’s tasks and functions through the identification of three types of norms: substantive, communication and control. The following findings (shown in Table 1) are based on the same scoping study used for the containment analysis combined with social media literature. The substantive activities for IIOs may include knowledge management, including knowledge transferring, sharing and creation. Information sharing, team-building and innovation are other substantive activities mentioned.

The communication activities which help support the substantive activities would be the messages delivered through the social media tools such as, blogging, bookmarking, tagging, networking, co-authoring, virtual meetings and briefings, and media sharing activities. Lastly, the control activities would be reinforced through the organisation’s social media usage policies and communication procedures, and accountability. Other control activities would be the softer control activities such as the organisational culture and peer-monitoring provided by the informal rules of engagement of social media activities.
From an organisational readiness perspective, if we can understand what activities and norms are necessary to support and carry out the substantive activities, then we can better understand what system and control norms should be ready prior to implementation. For example, this analysis shows that an organisation can measure their readiness based on whether they have control activities in place namely, SM usage policies and communication procedures, accountability measures, and an organisational culture, which is conducive to peer-monitoring. Likewise, this understanding can allow an organisation to assess what changes or improvements should be done before implementation.

Collateral Analysis for Internal Use of Social Media

From an organisational readiness perspective, the collateral analysis may prove useful in understanding the discrepancies between the current system (marked predecessor in Figure 2) and the focal system. Additionally, it may highlight the factors for readiness prior to introduction. While it is important to analyse the complete system, two important aspects in regards to readiness to introduce social media would be the launching and fallback systems. Prior to introduction an organisation can assess how ready it is to launch the system through collateral analysis. A plan for launching the focal system might include a schedule to launch, spread awareness through persuasive communications and have champions identified. Another important consideration prior to introduction is to plan a fallback system, in case the social media system fails. A possible fallback system may be to revert to the predecessor systems for which it replaced, this could be a single system or a combination of systems, such as email, chat, groupware, websites and shared folder systems. This process would happen until the social media tools were synchronised with the data information stored in the fallback system and back up into production.

Other areas which aid in assessing readiness are the sub-units of environment and resources. Analysis of the environment shows that it is important to have internet available through pcs, smartphones and other mobile technologies, such as tablet pcs. Lastly, the analysis reveals the financial, human and physical resources that are necessary to introduce social media. An organisation’s financial resources may include resources to cover additional physical resources such as, pcs and smartphones and human resources such as, social media experts. Human resources may include additional knowledgeable technical staff, and as mentioned previously the social media experts who could be used as change agents. The analysis of the focal system and the sub-units are shown in Figure 2

In summary, this section covered the application of OS techniques, organisational containment (organisational onion), organisational morphology, and collateral analysis in an effort to determine the factors of readiness for social media use in IIOs. These techniques revealed organisational readiness factors of resources, organisational climate (awareness), processes, motivational readiness (discrepancy), benefit, and organisational control factors. Organisational control factors revealed are security/privacy, policies, communication procedures, accountability, and fallback.
DISCUSSION

The analysis through organisational semiotic methods revealed several factors for readiness. The organisational morphology coupled with the organisational onion analysis revealed that while social media communication activities such as, blogging and micro-blogging, bookmarking, tagging, networking, co-authoring, virtual meetings and briefings, and media sharing can support the substantive activities, a control system should be ready prior to introduction. The control activities revealed a need for the following factors: SM usage policies and communication procedures, accountability, and organisational culture, in particular peer-monitoring that will ensure the rules of engagement are being followed. Additionally, organisational onion revealed the factors of resources and benefit. Collateral analysis helps reveal the discrepancies between the predecessor system and the focal system by showing the functions, including environment, fallback, resources and launching necessary for the focal system to run properly. This in turn reveals factors for organisational readiness prior to introduction including, resources (financial, human and physical), organisational climate (awareness), motivational readiness (discrepancy) and organisational controls (fallback).

Figure 2 Collateral Analysis for Social Media Introduction (adapted from (Liu 2000))
**Table 2 Comparison of Organisational Readiness Factors**

<table>
<thead>
<tr>
<th>Technology Readiness Factors</th>
<th>Sub-factor</th>
<th>Sources</th>
<th>Identified in Literature</th>
<th>Identified through OS analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources</td>
<td>Human resources</td>
<td>(Klein et al., 2001; Lehman et al., 2002; Molla et al., 2005b; Salasin et al., 1977; Snyder-Halpern 2002)</td>
<td>OO, CA</td>
<td>Technical and SM experts, training</td>
</tr>
<tr>
<td></td>
<td>Financial resources</td>
<td>CA</td>
<td>Financial</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Physical/Technology resources</td>
<td>OO, CA</td>
<td>Internet access, pcs, mobile technology</td>
<td></td>
</tr>
<tr>
<td>Org climate</td>
<td>Awareness/knowledge of change</td>
<td>(Klein et al. 2001; Molla et al. 2005b; Salasin et al. 1977; Snyder-Halpern 2002; Wanberg et al. 2000)</td>
<td>CA</td>
<td>Awareness</td>
</tr>
<tr>
<td></td>
<td>staff cohesion openness to change</td>
<td>CA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Resistance to change</td>
<td>CA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mission and Goals</td>
<td>CA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Processes</td>
<td></td>
<td>(Snyder-Halpern 2002)</td>
<td>OM</td>
<td>New processes</td>
</tr>
<tr>
<td>Values</td>
<td></td>
<td>(Salasin et al. 1977; Snyder-Halpern 2002)</td>
<td>OM</td>
<td>New processes</td>
</tr>
<tr>
<td>Motivational readiness</td>
<td>Discrepancy (need for change)</td>
<td>( Holt et al., 2007; Lehman 2002; Molla et al. 2005b; Salasin et al. 1977; Wanberg et al. 2000)</td>
<td>CA</td>
<td>Discrepancy</td>
</tr>
<tr>
<td></td>
<td>Pressure to change</td>
<td>CA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personal attributes</td>
<td>CA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benefit</td>
<td></td>
<td>(Holt et al. 2007; Klein et al. 2001; Molla et al. 2005b; Salasin et al. 1977)</td>
<td>OO</td>
<td>Benefit</td>
</tr>
<tr>
<td>Management support</td>
<td></td>
<td>(Holt et al. 2007; Klein et al. 2001)</td>
<td>OO, OM</td>
<td>Security/privacy concerns</td>
</tr>
<tr>
<td>Participation in the change process</td>
<td></td>
<td>(Molla et al. 2005b; Wanberg et al. 2000)</td>
<td>OO, OM</td>
<td>Policies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OO, OM</td>
<td>Communication procedures</td>
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<td></td>
<td></td>
<td></td>
<td>OO, OM</td>
<td>Accountability</td>
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<td></td>
<td></td>
<td></td>
<td>CA</td>
<td>Fallback</td>
</tr>
</tbody>
</table>

Legend: CA = Collateral Analysis, OO = Organisational Onion, OM = Organisational Morphology
The factors for organisational readiness identified in literature review include, resources (human, technical and financial) (Molla et al., 2005b; Klein, Conn, and Sorra, 2001; Lehman, Greener, Simpson, 2002; Salasin and Davis, 1977; Snyder-Halpern, 2002), organisational climate (Lehman et al., 2002), processes (Snyder-Halpern, 2002), values (Salasin et al. 1977; Snyder-Halpern 2002), motivational readiness (Holt, Armenakis, Feild, and Harris, 2007; Lehman et al., 2002; Molla et al., 2005b; Salasin et al., 1977; Wanberg and Banas, 2000), benefit (Holt et al., 2007; Klein et al., 2001; Molla et al., 2005b; Salasin et al., 1977), 7) management support (Holt et al., 2007; Klein et al., 2001) and participation in change (Molla et al., 2005b; Wanberg et al., 2000). Organisational climate includes, awareness/knowledge of change (Armenakis et al., 1993; Klein et al., 2001; Molla et al., 2005b; Salasin et al., 1977; Snyder-Halpern, 2002; Wanberg et al., 2000), staff cohesion, openness to change (Lehman, 2002), resistance to change (Salasin et al., 1977), and mission and goals (Salasin et al., 1977; Snyder-Halpern, 2002). Motivational readiness includes factors such as, discrepancy (need for change), pressure to change and personal attributes (professional growth, efficacy, influence and adaptability). Table 2 shows a summary of the factors identified in previous research.

In comparison to factors revealed through organisational readiness for technology literature some of the same factors were identified using the OS methods. These include resources, (technical, financial and human), organisational climate (awareness), processes, motivational readiness (discrepancy), and benefit. Additional factors were revealed through OS methods that were not previously identified in literature. These factors can be categorised as organisational controls and include security/privacy, policies, communication procedures, accountability and fallback. Table 2 depicts a summary of these findings and can be used for comparison purposes. The organisational readiness for technology factors are listed in the left section with corresponding sources, while the organisational readiness for internal social media use factors are in the right section with the corresponding OS method used for analysis. It also shows that there are factors that have only been identified in previous research found in literature namely, values, management support and participation in the change process.

CONCLUSION
This paper set out to identify organisational readiness factors for implementation of internal use of social media within information intensive organisations. The heightened use of social media and the reliance of these tools on the socio-cultural aspects presented a need for a method which investigates these relationships. This paper was concerned with organisational readiness so the focus was on organisational structure and culture which can be analysed using OS methods.

One limitation was the use of one IIO coupled with literature review. There is little research on the internal use of social media within organisations and organisational readiness. However, there has been research on organisational readiness for technology which was drawn upon to help with analysis. Another limitation in the research is the various terminology and semantic groupings within the organisational readiness literature, which makes it a more complex process to organise and categorise into common semantic groupings.

In conclusion, OS methods were applied revealing both factors which were previously identified in literature and new factors revealed using the OS methods. The common factors identified for organisational readiness for technology and internal social media use included; resources, organisational climate, processes, motivational readiness, and benefit. The new organisational control factors revealed are security/privacy, policies, communication procedures, accountability, and fallback. Lastly, other factors such as values, management support and participation in the change process were found in literature review, but not yet revealed through OS methods. These factors may be revealed through further analysis. Future work will investigate perceptions towards use of social media using additional OS methods such as, valuation framing and norm analysis. Validation of the factors will also be completed after other OS methods have been utilised.

REFERENCES


