

# **Factors influencing the use of the World Wide Web's potential for sustainability communication: An extension to stakeholder and legitimacy perspectives**

## **Abstract**

This paper explores the factors that influence the use of the potential of the World Wide Web (web) for sustainability communication. A qualitative case study into three Australian mining companies is undertaken to explore corporate use of the potential of the web for sustainability communication. The factors that could influence web based sustainability communication are initially established in theory through the use of prior literature. These include economic factors, internal organisational factors and external stakeholder influences. A series of interviews held with personnel from the three companies was used to confirm these factors and to investigate if there were other factors that could explain web based communication in relation to sustainability issues. The evidence from interviews supported the factors specified in the initial research framework. Two other factors emerged from the field. These are referred to as the double-edged sword and change in management philosophy.

**Keywords:** web, communication, sustainability, stakeholder.

## **Introduction**

Corporations have moved from providing a brief summary of sustainability issues in annual reports to preparing detailed social and environmental reports, and communicating through electronic media such as the World Wide Web (web) (Unerman *et al.* 2007; Cho *et al.* 2009; Lodhia, 2012). There has also been increasing attention devoted to engaging stakeholders in a company's social and environmental agenda (AccountAbility, 1999; Andriof *et al.* 2002, 2003). Guidelines such as the AA1000 (AccountAbility, 1999) and Global Reporting Initiative (GRI) (GRI, 2002, 2006, 2011) have been developed to encourage companies to engage with their stakeholders and disclose extensive social and environmental information (Cooper and Owen, 2007).

Amidst these developments in sustainability communication, the characteristics that would enable such communication to be effective have received scant attention. For communication to be effective, information needs to be timely. Prior financial reporting literature for instance has argued that accounting should serve a contemporary role in society (Chambers, 1966) and in practice; the conceptual framework (see for instance, Hongren, 1981) requires timeliness as an essential characteristic of accounting information. The accessibility of information to stakeholders is also necessary for effective communication. Parker (1982) argues for a mass communication perspective for corporate financial reporting so that information is accessible to a range of users. The way information is presented and organised is

also an important requirement in communication. Prior accounting literature such as, Beattie and Jones (1992) which focuses on graphs and Courtis (2000) which concentrates on organisational capabilities of annual reports, support a need for presentation and organisational tools for communication. Moreover, interactive capabilities are needed in order to engage with stakeholders. As discussed earlier, the social and environmental accounting literature highlights an increasing need for engagement with stakeholders to complement social and environmental disclosure (see for instance, Bebbington, 1997; Unerman, 2007).

The web has the potential to transform sustainability communication when compared to other traditional means of communication such as annual reports, and social and environmental reports (Adams and Frost, 2004; Lodhia, 2004, 2006a, 2006b, 2012; Cho *et al.* 2009). Information related to sustainability issues can be communicated on a timely basis to stakeholders. The web has mass communication and global reach benefits, making sustainability information accessible to a range of stakeholders. Presentation and organisation features on the web also provide capabilities such as graphics, multimedia, animation, hyperlinks, menus and portals for disclosing sustainability information. Moreover, the web enables interaction through mechanisms such as emails, bulletin boards and discussion fora, allowing a company to engage with its stakeholders in relation to sustainability issues.

Recent social and environmental accounting literature has explored the communication of sustainability issues through corporate websites (see, for instance, Williams and Pei, 1999; Adams and Frost, 2004; Coupland, 2005, 2006; Lodhia, 2005, 2006a, 2006b, 2012; Cho *et al.* 2009; Herzig and Godemann, 2010). This literature indicates that there are variations in the extent to which the communication potential of the web is used by companies but does not explain the reasons for these variations. There is a conspicuous absence of literature which could explore the factors which influence the use of the web's potential for sustainability communication in particular contexts, thereby explaining the use of the various capabilities of the web in practice.

This study is motivated by a desire to address the gaps in the current web based sustainability communication literature identified here. It seeks to explore through interviews with corporate managers in three mining companies the factors that influence the use of the communication potential of the web in practice. The paper highlights that while the web has communication potential, the use of this potential is influenced by a range of factors.

Prior research suggests that legitimacy theory (and to some extent, stakeholder theory) provides a sound theoretical basis for understanding current sustainability communication practices (Hooghiemstra, 2000; Deegan, 2002, 2007; Chen and Roberts, 2010). Legitimacy theory suggests that organisations have a social contract with society whereby they need to undertake activities to legitimise their existence (Dowling and Pfeffer, 1975; Lindblom, 1993). Companies often use sustainability

reporting to seek legitimacy from their external constituents, commonly referred to as stakeholders. Stakeholder theory on the other hand focuses on the critical importance of stakeholders and suggests that they need to be managed in order for organisations to survive (Freeman, 1984; Roberts, 1992; Clarkson, 1995; Andriof *et al.* 2002, 2003).

These theories have primarily been utilised to explore disclosure in paper based reports such as annual reports, and social and environmental reports. As argued earlier, the use of the web changes the dynamics of sustainability communication and thus, a need arises for extending the existing theories. In line with Bebbington *et al.* (2008a, 2008b), this study argues for theoretical openness and multiplicity in relation to social and environmental reporting.

This paper uses a research framework based on past sustainability reporting literature to provide an initial theoretical lens for examining the factors driving web based sustainability communication in a particular social and environmentally sensitive industry. The work of Ullmann (1985) and Adams (2002) is utilised to provide insights into the factors influencing web based sustainability communication in a social and environmentally sensitive industry. The Australian minerals industry was the research context for this study because the operations of companies in this industry produce extensive social and environmental impacts (Rae and Rouse, 2001; ABS, 2003a, 2003b). Accordingly, these companies are subjected to close scrutiny from their stakeholders (IIED, 2002; MMSD, 2002) and they often need to communicate sustainability information to them (Christopher *et al.* 1998; Peck and Sinding, 2003; Deegan and Bloomquist, 2006; Jenkins and Yakovleva, 2006; Yongvanich and Guthrie, 2007; Lodhia, 2007). It has also been highlighted in the literature that these companies are the leaders in communicating sustainability information (Peck and Sinding, 2003). However, little is known about their use of the web for sustainability communication.

Prior literature suggests that companies in Australia appear to be using the web extensively for building their corporate image through a significant emphasis on marketing (Adams and Frost, 2004). However, mining companies do not sell products directly to consumers and, therefore, have less need for marketing through the web. Conversely, their corporate image is often related to their social and environmental performance in addition to their economic performance (IIED, 2002; MMSD, 2002).

This paper makes several contributions. It highlights a need for expanding our theoretical understanding of sustainability communication. Future studies in sustainability communication should not be merely restricted to stakeholder or legitimacy theory. They need to explore a range of potential factors that could explain present practices. This study, through a focus on a particular communication medium – the web – has highlighted that the impact of the medium used for social and environmental communication requires conceptual insights that extend beyond current theories of social and environmental reporting. Theoretically informed research

should therefore consider that explanations related to the use of a particular medium have the potential to explain current sustainability communication practices. The study also provides insights for practitioners and stakeholders into the factors that explain the use of the web's potential for sustainability communication in a social and environmentally sensitive industry.

## **Prior Literature**

A majority of prior literature into web based sustainability communication has focused on the extent of web usage by companies. The context for these studies varies, including specific countries (Craven and Otsmani, 1999; Andrew, 2003; Cormier and Magnan, 2003; Frost *et al.* 2005; Bolivar, 2009; Tagesson *et al.* 2009; Herzig and Godemann, 2010), particular regions (Williams and Pei, 1999), global contexts (Jones *et al.* 1999; Rikhardsson *et al.* 2002; SustainAbility/UNEP, 1999, 2001; Jose and Lee, 2007; Morhardt, 2010) or even specific industries in some countries (Patten, 2002; Patten and Crampton, 2004; Lodhia, 2005, 2006a, 2012). The general findings from these studies highlight that even though web based communication is increasing, there is variation in the extent of web usage. The communication potential of the web is found to not be fully utilised.

Other studies on web based sustainability communication have moved beyond reporting practices and explored engagement with stakeholders through the use of the web (see Cooper, 2003; Unerman and Bennett, 2004). Whilst Cooper (2003) found that engagement through the web was limited and selective, Unerman and Bennett (2004) explored the practice of the international company Shell and found that the web had potential to empower stakeholders to engage in democratic debates.

Prior literature has also looked at the use of the web for addressing specific social and environmental issues. These include Campbell and Beck (2004) which explored use of the web by corporations for answering allegations of ethical malpractice. Moreover, the work of Coupland (2005, 2006) uses a critical approach to examine how organisations use the web to construct their own accounts of corporate social responsibility and to legitimise organisational existence.

Cho *et al.* (2009) use the notion of media richness (initially applied to social and environmental accounting in Lodhia, 2004, 2006a) to explore whether a rich medium such as the web had an impact on user trust and perception of corporate social responsibility. They find that the web does have an impact on the trusting intentions but not the trusting beliefs of users.

Web based sustainability communication is not just restricted to exploration of the web. Limited literature has utilised surveys and interviews to gain an understanding of managerial responses to the use of the web as a medium of communication (see Jones *et al.* 1999; Adams and Frost, 2004; Lodhia, 2006b, 2012; Herzig and Godemann,

2010). However, these studies lack a theoretical underpinning through the use of a research framework which could explain the factors that drive the use of the potential of the web in different contexts, thereby providing reasoning for the common finding in the literature discussed here. This study therefore addresses this gap in the literature and goes further than prior studies by applying existing social and environmental accounting literature for exploring the factors that influence the use of the web's potential in practice.

### **Theoretical Grounding**

The seminal work of Laughlin (1995) and Llewellyn (2003) can be used to describe the theoretical approach adopted for this paper.

Laughlin (1995) highlights that empirical research in accounting is based on theory, methodology and change choices which range in a continuum of high to low. Theory implies the extent of prior theorisation in an empirical investigation, methodology refers to the role of the researcher and how structured the method is, while change refers to the maintenance of status quo or a need for radical change. Laughlin (1995) recommends a middle-range thinking approach which takes a midpoint in these requirements. Theory is based on a skeletal theory that will be “fleshed” out with empirical data; methodology requires a semi-structured subjective approach where the researcher is part of the process of discovery while change is open to maintenance of status quo or radical change.

Further expansion of theorisation in accounting is provided by the work of Llewellyn (2003). Her classification of theories involves a continuum of metaphor, differentiation, conceptualisation, context dependent and grand theorising. A metaphor is the lowest level of theorisation. It creates meaning and significance through the development of particular descriptive notions. Differentiation extends this notion by considering the categories and contrasts that underpin particular notions. Conceptualisation, as the name suggests, creates specific concepts that have significance and meaning. Context dependent theorising develops an in-depth understanding of specific settings. The highest level of theorisation is a grand theory, which is an overall general theory for societal structures. This can be found in the work of, for example, Habermas and Marx.

This study focuses on middle-range thinking with context dependent theorising. The research undertaken for this study is not intended to develop a grand theory that could be applied in a general setting. Moreover, it is not a simple theoretical process that is used to describe particular phenomenon through metaphors, differentiation and conceptualisation.

The intention of the theory building exercise in this research is to use prior literature as an initial basis for exploring current practices (skeletal theory). Specific findings

not outlined in the literature but emerging from practice also adds to the theorisation of factors influencing web based sustainability communication (adding to skeletal theory). The research framework developed in the next section and its potential extension is a context dependent theory which provides an understanding of the factors influencing web based sustainability communication in three mining companies.

The methodological approach adopted here is based on a semi-structured subjective method (further details in methodology section). Change is not the focus of this study; emphasis is on the factors influencing the use of the web for sustainability communication, rather than to prescribe a change to web based sustainability communication.

## **Research Framework**

This study draws upon the work of Ullmann (1985) and Adams (2002) to provide an initial skeletal theory/framework for this study. While these frameworks are based on management, and social and environmental accounting respectively, they share a number of common elements which suggest that sustainability communication is driven by factors that extend beyond the stakeholder and legitimacy theory considerations which dominate current research. This framework is similar to a contingent framework developed by Otley (1980) whereby a range of factors affect practice and in a given context, these could vary in their degree of importance.

Ullmann (1985) developed a three-dimensional strategic stakeholder framework to explain social disclosure and performance. The components of this framework are stakeholder power, strategic posture and past and current economic performance. Stakeholder power refers to the ability of stakeholders to influence an organisation. Strategic posture refers to the mode of response of key decision makers within the organisation to social and environmental issues. Past and current economic performance also affects the extent to which decision makers attend to social and environmental issues and the ability of the company to disclose sustainability information to stakeholders (see also Jones *et al.* 2008; Lee *et al.* 2009; Choi *et al.* 2010). In essence, Ullmann's theoretical framework highlights that in addition to stakeholder characteristics (stakeholder power), economic and internal strategic considerations influence the sustainability communication practice of a company.

Adams (2002) posits that existing theories need to be extended to consider the impact of the internal organisational context on social and environmental reporting. She highlights that prior research has focused primarily on corporate characteristics such as size and industry as well as general contextual factors. Adams suggests that a combination of corporate characteristics, general contextual factors and internal contextual issues have a critical effect on social and environmental reporting. Essentially, her framework draws close parallels to Ullmann's work while at the same

time, specifies what the internal contextual factors are in relation to social and environmental accounting practices. She identifies internal contextual factors as corporate attitudes to social and environmental issues as well as the organisational processes which enable sustainability information to be communicated to stakeholders.

In line with Ullmann (1985) and Adams (2002), this study acknowledges that a combination of the key insights provided by this literature is a useful starting point for exploring a complex issue such as web based sustainability communication. Consequently, corporate (including economic considerations), internal (including strategic posture) and external contextual influences are related to web based sustainability communication. This study identifies the economic factors, internal organisational factors and external stakeholder influences which could influence web based sustainability communication.

Ullmann (1985) specifies that economic issues have a critical impact on social and environmental disclosure. Applying this principle to web based sustainability communication, cost-benefit factors affect the use of a medium for communication. The web is often regarded as less costly than other information dissemination media (Ashbaugh *et al.* 1999; Lymer *et al.* 1999; Trites, 1999; FASB, 2000; Ettredge *et al.* 2001). Initial start-up costs for technology and its maintenance and personnel costs are balanced by the numerous benefits offered by the web. However, costs for website development and its maintenance can also restrict web based sustainability communication (Adams and Frost, 2004).

Internal organisational factors can affect the extent to which the potential of the web is used for sustainability communication—in particular, corporate attitudes towards sustainability, stakeholders and the communication medium—and the resulting processes in terms of the strategic use of the web for sustainability communication. In relation to attitudes towards web based sustainability communication, organisational culture has an impact on the sustainability communication practice of companies (Bebbington, 2007). Corporate attitudes towards sustainability issues, stakeholders and the communication medium can determine the extent to which web based sustainability communication takes place.

Sustainability and stakeholder issues are critical for corporations. Thus, positive attitudes towards sustainability and stakeholders are enabling conditions for prompting sustainability communication. These could be matched with recognition of the role of the medium's potential in facilitating such communication.

Web based sustainability communication processes can also be related to the strategic processes (Ullmann, 1985) of a company. As web based communication is a new and emerging way of disseminating sustainability information, some companies can undertake it with the foresight that such communication will provide them with a strategic advantage in managing their relationships with stakeholders regarding social

and environmental issues when compared with the existing approaches undertaken by their competitors. They will aspire to be the leaders in such a form of communication. This premise is supported by the literature on social and environmental reporting, which suggests that certain companies seek to be the leaders in sustainability disclosure (SustainAbility/UNEP, 2000, 2002, 2004). It is interesting to consider whether this situation also applies to web based sustainability communication.

Conversely, some companies will be conservative in their use of the web for sustainability communication (Adams and Frost, 2004). Their strategic focus could be to utilise certain capabilities of the web rather than seek to be a leader in the use of web based technologies for sustainability communication.

External stakeholder influences can be conceptualised through stakeholder demand, preference and competence. External stakeholder pressures (see for instance, Tilt, 1994) and the demand for sustainability communication (see for instance, O'Dwyer *et al.* 2005) can lead to the use of a particular communication medium. Pressure from stakeholders for increased and timely information and engagement can affect web based sustainability communication. Such pressure could require a corporate response through communication via a medium which has the ability to enhance timeliness, presentation and organisation, accessibility and interaction. As discussed earlier, the web has the potential to facilitate such communication. Moreover, regulators or industry associations can encourage companies to undertake web based sustainability communication. Initiatives from these bodies can provide an impetus for web based sustainability communication. In Australia, for instance, public social and environmental reports of companies and National Pollutant Inventory data are available on the federal government's Department of Environment and Heritage website. This encourages companies to present information electronically.

Conversely, a lack of demand from stakeholders for web based sustainability communication can restrict current practices. Some stakeholders will prefer hardcopy documents over web based reports or prefer traditional access to online material (ACCA, 2001). Certain stakeholders may also lack information technology literacy and be reluctant to adapt to the changing nature of information management and dissemination (SustainAbility/UNEP, 2001). Moreover, not all stakeholders have access to the Internet; this issue has been termed the 'Digital Divide' (SustainAbility/UNEP, 1999, 2001). Thus, stakeholder preference and competence can affect web based sustainability communication.

### **Figure 1 here**

Figure 1 illustrates the research framework for this study. It highlights that while in theory the web has communication potential, the use of this potential in actual practice is influenced by the factors discussed here. This affects the extent to which



the web is utilised for sustainability communication, leading to variations in practices across companies as discussed in the prior literature section.

## **Research Methodology and Context**

Adams (2002) highlights that further research is needed to assess the processes that underpin social and environmental reporting practices so that an in-depth understanding of specific contexts can be obtained. Adams and Larrinaga-Gonzalez (2007) also posit that academics need to engage with companies in their pursuit of improved sustainability performance and accountability. These insights influenced the current study and led to the selection of the case study approach (Hagg and Hedlund, 1979; Scapens, 2004; Yin, 2009) as the most viable research strategy.

Case study research enables an in-depth understanding of a particular context and emphasises the development of prior theoretical constructs to guide the research (Otley and Berry, 1994; Humphrey and Scapens, 1996; Scapens, 2004; Yin, 2009). The research framework in Figure 1 guided the collection of data for this research. However, in line with case study research, the researcher was alert to any significant 'findings from the field' (Yin, 2009) which could extend the initial skeletal framework.

### **Table 1 here**

Three companies were selected for this research based on prior literature on sustainability reporting in the Australian minerals industry (WWF, 1999, 2000; Peck and Sinding, 2003; Jenkins and Yakovleva, 2006), an analysis of their prior sustainability reporting practice via the various media as well as ease of access to company personnel. One was an Australian company and another was a former Australian company that recently was taken over by a multinational. The third was a former Australian company that had merged with a multinational several years ago. These companies are referred to as Company A, B and C respectively in order to protect their identities. Further details on each company are provided in Table 1.

All three companies utilised the web as a vital component of their communication process. However, there was variation in the extent to which the web was used by each company, as will be discussed in the findings section. The web based sustainability communication process was quite similar in all three companies with a multidisciplinary approach being undertaken. Interaction between sustainability and communication staff played a key role in determining what (content) and how (communication) information was to be displayed on websites. A vetting process involving legal staff and senior management was also used to varying degrees in each organisation.

## **Methods**

Interviews were the primary data collection method for this research. However, information in the public domain pertaining to the three companies, such as annual reports and social and environmental reports, as well as their websites were also analysed. In addition to informing the research context, these had a role in shaping the interview questions and were later used to verify interview responses or to expand upon the information provided in the interviews.

Semi-structured interviews were held with the sustainability and communication managers of these companies. As discussed in the previous section, there was extensive involvement of the communications and sustainability personnel in web based sustainability communication. This supports the selection for interview of those in charge of these processes. All the managers that were interviewed were at senior and middle levels of management within the organisation. Table 2 provides details of the interviewees. The letters indicate the organisation that the interviewees were associated with, and the numbers differentiate the interviewees in each company.

A total of 16 interviews were held at three different stages. Initially, the sustainability managers were interviewed in order to gain insights into their sustainability communication practice and the use of the various media for such communication (four interviews). The second stage involved interviews with both the sustainability managers as well as managers with responsibility for web based communication (six interviews). These interviews were specific and explored the use of the web for sustainability communication and the factors driving current practices.

The final series of interviews were held with the same interviewees from the second series (six interviews). These were conducted to explore issues raised in prior interviews that needed further elaboration. Moreover, these interviews were the final opportunity for the participants to talk about issues that may not have been raised in earlier interviews. Such in-depth longitudinal interviews ensured that the study's findings were the result of a rigorous research process. The interview questions are provided in the appendix.

### **Table 2 here**

Other documents such as social and environmental reports, where available and relevant, were used to substantiate the interview data. Moreover, the websites of the three companies were analysed throughout the interviews, as this process provided a contemporary assessment of interviewee responses. As will be discussed later, two out of the three companies had changes to their website structure while this research was being undertaken and the website analysis allowed the researcher to capture these

critical events when they occurred and seek feedback from interviewees for their occurrence.

Data collected from the interviews, documents and websites was analysed with Nvivo. Codes were developed by the researcher for use in Nvivo on the basis of the key elements identified in the research framework. The emphasis was on searching for patterns in the data that reflected the theoretical constructs used in the study. Most of the interview questions were designed to capture the various factors identified in the research framework. However, the codes were not limited to these factors but included any issues raised by interviewees in response to more general questions. It was possible that certain issues raised in the interviews did not relate to the theoretical codes. These issues were initially coded and probed in later interviews.

## **Findings**

### *Economic Factors*

The cost effective nature of web based sustainability communication was mentioned by all the interviewees. This is shown in the following quotes:

*Move to electronic based sustainability communication is cheaper in the long run.*  
(Interviewee A1)

*Web based sustainability communication is a much cheaper option. You do not pay so much for printing, mailing and design costs.* (Interviewee A2)

*The website obviously saves on the costs and the geographic limitations of hardcopy reports.*  
(Interviewee B2)

*Another advantage of the web is that it is relatively cost effective and allows you to reach stakeholders that you may not have known. You can also have a report mailed to addresses you know of, while the web can in one contact you and readily get that information for you without having to do a lot of work. [Sic]* (Interviewee C1)

The interviewees highlighted that the initial costs for website development and maintenance were compensated by the cost reductions in printing and mailing and the efficiency brought about by web based sustainability communication. This was perceived as a critical influence over the three companies' decision to undertake web based sustainability communication.

While the interviewees acknowledged the economic benefits of the web, they also highlighted that economic factors restricted the use of more advanced mechanisms for sustainability communication, such as discussion forums, bulletin boards and chatrooms. For instance, Interviewee A1 remarked:

*My response in relation to forums and chatrooms is it is extraordinarily expensive to do it. You have to man it. [Sic]*

In summary, the interview findings highlighted that economic factors provided an impetus for web based sustainability communication. However, in some instances, the use of advanced interactive features was restricted by economic issues.

### *Internal Organisational Factors*

Corporate attitudes towards sustainability issues, stakeholders and the communication medium was a critical factor that explained the web based sustainability communication practice of the three companies. Terms such as ‘being transparent’, a ‘beyond compliance approach’, ‘reputation’ and ‘social licence to operate’ were mentioned throughout the interviews:

*... Our licence to operate is dependent to a great degree by the reputation we have with a range of stakeholders” (Interviewee A1)*

*These contribute to our concept of social licence to operate, so in communicating we are being transparent about our practices from an environmental perspective and others. We are helping to maintain our social licence to operate. (Interviewee B1)*

*It also shows that we are open and transparent about our social and environmental matters. (Interviewee C1)*

Excerpts from social and environmental reports and other documents also highlight the importance of communicating sustainability issues to stakeholders in the three companies:

*For [Company A], securing our licence to operate is critical to accessing and being able to process and sell mineral resources. Our reputation as a good corporate citizen – as being responsive to broader stakeholder expectations while acting responsibly in the long-term interests of our shareholders, employees and the communities within which we operate – has a strong influence on securing such a licence. (Company A’s Social and environmental report)*

*In a climate of greater social accountability, company transparency and stakeholder, environmental and social demands, [Company B] is taking a proactive approach to the public disclosure of its broader social responsibilities. (Company B’s Social and environmental presentation proceeding)*

*We are committed to maintaining and promoting dialogue with stakeholders in the resource industry and remaining responsive to the global community’s concerns and aspirations. The Company recognises the importance of accountability to stakeholders, and we seek to be transparent in relation to our communications and documentation. (Company C’s Social and environmental report)*

As discussed earlier, Company A was one of the first Australian corporations to publish an environmental report. Its sustainability disclosure in reports and on the website indicated that it considered social and environmental issues to be a critical component of its business processes. The interviewees highlighted that they needed to

appear legitimate to their stakeholders in relation to their company's social and environmental impacts.

Given the corporate attitude to be transparent and open with stakeholders, Company A had an increasing need to communicate with them. The web was perceived as a potential tool that the company could utilise to effectively communicate with a range of stakeholders. There was support from top management for web based sustainability communication and this enabled the online continuous strategy to be undertaken. Interviewee A1 remarked:

*[Top management] are obviously for it. If they were not for it, we would not do it. They are very supportive of this and they see the benefits of doing this. This was part of a broad improvement strategy and they came on board pretty quickly.*

Company B also took its sustainability and stakeholder issues seriously, as is evident from the following comment:

*It is part and parcel of the way that we do business that we have to be environmentally responsible. It becomes a community expectation. It is not something that you decide to have a green badge on and a green badge off.* (Interviewee B3)

This quote suggests that Company B also recognised the need to appear legitimate to its stakeholders in order to survive.

However, when it came to the medium for sustainability communication, the company was extensively reliant on other media in addition to the web for sustainability communication:

*Obviously, the company sees the web as a very important medium for communication. But it certainly is not the only medium. There is a need for a human face to be associated with communication. At the end of the day, everyone would like to talk to someone. For example, as part of your research, you chose to talk to people in addition to looking at company websites.* (Interviewee B3)

The interviewee therefore conceded that communication through its social and environmental reports was the primary approach to sustainability communication for the company.

Company C is a corporation that was implicated in a major environmental incident. Since the incident, the company has been increasingly conscious of its need to manage its sustainability issues and gain the support of its stakeholders. This is evident from having a senior position for sustainability issues (Vice-President, Sustainable Development) within the corporation and the extensive social and environmental disclosure in reports and websites.

In relation to the environmental incident, interviewee C1 stated:

*This is still very much a live issue. People still raise it and want to talk about it with us... In fact, it is still very much an issue and will probably be for the next 10 years. People will continue to know what has happened in [place of environmental incident]... We did not handle communications around [the environmental incident] very well.*

The interviewees indicated that the company could have utilised the web effectively at the time when it was implicated in this major environmental incident. The web was not extensively used for corporate issues at this time, but the interviewee stressed that if the incident had occurred around the time of the study, the company would have utilised the web to provide information to its stakeholders.

In summary, all three companies had positive attitudes towards sustainability and stakeholders. Two of these corporations also considered the web to be a useful medium. This explains to some extent the differences in the web based sustainability communication practice of the three companies. The interviews, verified by an evaluation of their websites, highlighted that Company A had moved to continuous sustainability communication conducted exclusively through the use of its website. It was also found that Company B merely used the website for providing access to its reports and other social and environmental information to stakeholders. Its use of the web for sustainability communication declined over time. Company C used the web for providing detailed information in relation to its sustainability issues on an annual basis and for ad hoc communication. The Company produced a summary of its annual sustainability report in hardcopy form and had a detailed report available on its website.

It was also observed that the three companies used the web in a limited way to engage with their stakeholders; tools such as discussion fora, bulletin boards and chatrooms were not used on their websites. Thus, the web had a primarily reporting role.

The extent of the strategic use of the web varied across the three companies. It appeared that Companies A and C sought a strategic advantage in utilising the web for sustainability communication. They were looking at ways to improve their sustainability communication in order to portray themselves as responsible companies. The web provided them with a platform to extend the existing capabilities of traditional sustainability communication media.

Company A perceived a leadership role for web based sustainability communication. Being one of the first companies in Australia to undertake environmental reporting, the Company was expected to also play a leading role in the next wave of sustainability communication – namely, web based sustainability communication:

*One of the reasons why we are keen for web based communication is that [Company A] was one of the first Australian companies to release a health safety and environment report and we are the leaders in public reporting for quite a time.*

*We think that public disclosure is very important. We could understand when companies had to produce a hardcopy sustainability report the responsibilities were beyond the capacity of a lot of the smaller companies. We are keen to go down the World Wide Web path because it does demonstrate that there is actually a better way of communication. It is probably within the reach of everyone. We are certainly very keen to communicate our social and environmental performance and hope this will encourage smaller companies to undertake such communication. We have a leadership role. (Interviewee A1)*

Company C also had a strategic intent for web based sustainability communication. It was cognisant of the changing nature of sustainability communication and was seeking to incorporate the use of the web into its communication activities. The company also acknowledged that other companies in the industry were moving towards such a form of communication. The Vice-President of Sustainable Development stated:

*I think that the web based approach is definitely the way to go. We are strongly moving in that direction. So are a number of our peers. (Interviewee C1)*

However, Company C was not willing to engage in continuous communication but was willing to play a “waiting game”. The company did not wish to undertake strategic leadership in this area but relied on adopting proven practices. It is interesting to note that the company’s approach to web based sustainability communication (summary reports with specific details on the website) was similar to the approach utilised by Company A before it adopted continuous sustainability communication.

For a variety of reasons, Company B made limited strategic use of the web for sustainability communication. A critical issue that explains its strategic position is discussed later in this paper.

In summary, varying levels of strategic intent were evident in the web based sustainability communication practice of the three companies. Company A was a strategic leader, thereby focusing on timeliness in addition to other communication requirements, Company B made limited strategic use of the web, and Company C adopted a conservative strategic approach to using the web for sustainability communication, focusing primarily on presentation and organisation, and accessibility.

### *External Stakeholder Influences*

The three corporations relied on the support of their stakeholders quite extensively, as evident from the interviews, and their past social and environmental reports. Stakeholders also influenced the web based sustainability communication practice of the three companies.

The interview responses suggested that these mining companies had two different sets of stakeholders – those concerned with general issues as well as those affected by

environmental performance at the site level. The local community and employees were regarded as being concerned about site level issues while most other stakeholders were regarded as having concerns about general social and environmental issues. However, the interviewees conceded that this distinction was not always clear-cut because some stakeholders such as governments were concerned with both general and on-site environmental issues. Moreover, local issues could become broader, general issues as Company C realised when its environmental incident had repercussions beyond the mine site. Thus, companies had to be aware of a range of stakeholders who could possibly impact their social licence to operate.

The websites were accessible to any stakeholder who had access to the web. Stakeholder demand was an issue that contributed to web based sustainability communication. This was clearly stated by interviewee B2:

*Yes. I think there is much more information reported nowadays because it is easier, cheaper and more dynamic to put information on the web than to print a hardcopy.*

*And I think it is also because of the Internet that people's demand for information is greater. Now they expect more information. Previously, they were happy with a single paragraph in an annual report, but with the web, there are no limitations of space.*

There was evidence of stakeholder engagement in at least two of the companies. The interviewees at Companies A and C indicated that they carried out stakeholder surveys that paved the way for web based sustainability communication. These views were verified through reference to their social and environmental reports. Company A engaged with its external advisory group in order to get support for its continuous web based sustainability communication strategy. The interviewees indicated that the only feedback they received after the continuous web based sustainability communication practice became operational was from regulators, who were highly satisfied with the company's practice. The Company was considering whether to undertake community perception surveys to gain an understanding of stakeholder demand for web based sustainability communication. For Company C, Interviewee C1 remarked:

*We did a survey of the [social and environmental report] last year, and the feedback we got from our stakeholders is that while they appreciated all the detailed information that we provided, they did not always require this information. They preferred having specific information provided on websites. So we have moved to a summary hardcopy report and detailed information on the web as a result of this.*

Interviewees at Companies A and C also mentioned that they sought the support of social responsibility analysts through their web based sustainability communication. They indicated that these were probably the only group that assessed all their sustainability information and that by having such information on their website; they were able to enhance their reputation in relation to social and environmental issues.



The Minerals Council of Australia also influences the web based sustainability communication practice of companies in the industry (MCA, 2001, 2004; Deegan and Bloomquist, 2006). The three companies examined in this study acknowledged that the Minerals Council of Australia encouraged the electronic communication of social and environmental issues by its member companies.

Stakeholder preference and competence in relation to web based technologies was also instrumental in the extent to which the web was utilised for sustainability communication. One of the primary reasons for Company B's reluctance to undertake web based sustainability communication extensively was that a lot of their stakeholders did not have access to such technologies and were also not competent in utilising them. However, interviewees at Company C were of the opinion that this issue was not such a critical problem:

*It is also an issue in developing countries when people may not have access to the web.*

*I think that is less of an issue because as long as people can read English, they would probably be able to access the web if they want to get information. Obviously, indigenous people in some locations are illiterate and would not have access to the web but they would not be able to read the hardcopy report anyway. I think access and preference is an issue but it is not the main issue. (Interviewee C1)*

Stakeholder preference for electronic and print media was also raised in the interviews. Some of the issues raised in favour of print media were:

*The print medium allows people to take something home, something tangible. And quite often, I guess, people get lazy about the Internet. If they have a book that they can physically flick through, they would, but if you ask them to log onto the web, they may not do this. (Interviewee B2)*

*I think that the main negative is that there are so many websites out there and people don't have the time to go through them all, so you need to be aware that it is a fairly passive form of communication. If you really want someone to read something, you still need a hardcopy in their in-tray that would grab their attention. (Interviewee C2)*

Interviewee A2, however, stated that these limitations of the electronic media were not always critical given that the distinction between the web and print media is not as rigid as it used to be:

*It depends on access and preference. Some people like to have something straightaway. However, with the ease with which web documents can be printed these days, the distinction between print media and the web is no longer that rigid.*

The companies considered stakeholder preference and competence when designing websites. An analysis of websites highlighted that this included limiting presentation features that could impede access speed, having clear hyperlinks and menus that are

easy to navigate and enabling the downloading and printing of information. Stakeholder feedback was also often sought for websites.

To sum up, stakeholder demand influenced the three corporations' sustainability communication, leading to a varying degree of web usage across the three companies. Concerns over stakeholder preference and competence were raised but were offset by effective website design and the complementary capabilities of the web in relation to print media by Companies A and C. However, both these companies did not extend the demand from stakeholders to developing the interactive potential of the web. Company B, on the other hand, had restrictions over its web based sustainability communication due to stakeholder preference and competence.

### *The Web as a Double-Edged Sword*

*In my four and a half years in this company, I have seen the web develop in leaps and bounds. It has had almost an exponential growth.*

*The web is extremely positive in certain ways but it is also a double-edged sword. If you do a wrong thing, the minute you do this, the four corners of the world know about this. It can come back and haunt you. (Interviewee B1)*

The preceding statement clearly illustrates a critical factor that 'emerged from the field'. This is referred to as the double-edged sword. It implies that even though the web is beneficial in many instances, these same benefits may be a limitation in other instances. A number of issues raised suggested that the technological benefits of the web could not be realised in all situations. Thus, organisations need to be pragmatic and manage their use of the web, leading to reductions in the use of certain approaches to sustainability communication.

The interviewees at Company A mentioned that the benefit of having timely communication through the web could be negated by getting immediate feedback from stakeholders. The expectations from stakeholders for real-time communication due to the web's timeliness capabilities cannot be continually managed by companies. Therefore, timely communication is not always desirable from a corporate perspective. Companies were not equipped to handle real-time communication in the context of sustainability communication at the time of the study. This could explain the reluctance of Companies B and C to undertake continuous web based sustainability communication, as evident from the analysis of their websites over a period of time.

Presentation tools can also be detrimental when they impede the access speed of websites for those stakeholders who have limited technological facilities. Thus, they can limit accessibility to the website and play a 'double-edged' role. Evidence of this is found in the web based sustainability practice of Company B, which recognised that some of its stakeholders had limited access to web based technologies.

The ability to have more information available on the web was also restricted by concerns about confidentiality and that readers would take the information out of context. This was clearly stated by Interviewee B3, who suggested that companies need to strike a balance when undertaking web based sustainability communication:

*I think it is really a huge issue because companies these days are talking about being more open and transparent. But it is balancing act. Quite honestly, it is a balancing act between being more open and transparent but not putting stuff out there which is giving people the ammunition to get their guts over. It is too easy for people to take information off a website, take it out of context and use it against you. That is what the lawyers worry about. It really does happen. It happens to us. So you become a bit gut shy after a while.*

*I really think this whole area is a balancing act. On the one hand, we would like to be more open and put more stuff out there, but on the other hand, we have to be careful from a legal perspective because we don't want to give organisations that are out there information on a platter that they can take out of context and attack us. That in a nutshell is the issue.*

It was also highlighted that the mass communication potential of the web could not be realised if stakeholders did not have access to the web. Several interviewees highlighted this point:

*The biggest challenge is assuming that the web is far-reaching. We still need to go out and meet people on a one-to-one basis, irrespective of how good the website is and how regularly information is updated.*

*If you sit back and assume that everyone is accessing the web and using the information, then you are kidding yourself. (Interviewee A2)*

*We find here in Australia that the things that impede the use of the web are the lack of people online, the lack of people that actually have web facilities and the access times. Trying to access things from across the world or across the country can be slow. And, certainly, with some of our stakeholders in remote areas or in indigenous communities they just do not have access to the web. (Interviewee B2)*

*But the bottom line is that if you are not connecting with people, then it is a waste of time. (Interviewee C2)*

Another problem associated with the massive reach of the web is that companies cannot always precisely identify who (potential) stakeholders are. Interviewee C1 perceived that there was always a “risk” of not exactly being aware of who the stakeholders are when communicating through the web:

*...probably you don't know who you are communicating with. With hardcopy distributions, we have a mailing list, but with the web, you have no idea. You can track the users and the areas they are interested in, but you can't really identify them, so that is the key challenge.*

The double-edged sword factor also explains the reluctance by the three corporations to interact extensively with their stakeholders via web based tools, observed during the analysis of their websites. In addition to the influence of economic factors, as highlighted earlier, the interviewees stated that electronic engagement with

stakeholders has the potential to lead to a company being subject to unnecessary stakeholder pressure. Moreover, selective electronic engagement with certain stakeholders could also lead to criticism from other stakeholders.

To sum up, whilst the web has communication potential, the interviewees indicated that the benefits of web adoption could also restrict current practices. This suggests that companies had to carefully consider how they were going to utilise the benefits of the web for sustainability communication and overcome its potential dual effects.

### *Change in Management Philosophy*

Another key issue to arise from the field was that a change in management could have an adverse impact on the sustainability communication practice of companies. This process is referred to as a change in management philosophy. This factor was critical for Companies A and B.

An analysis of Company B's social and environmental reports highlighted that while prior to its takeover there were detailed reports for the local company, its representation after its takeover was limited to site based reports for local operations. This was despite the fact that the global company adopted a lot of the local company's social and environmental management and communication procedures. These included the local company's environmental management processes; social and environmental policies and values; report formats; site based reports for all operations of the company; and rank order reporting of environmental incidents. Even though this indicates that the local company had a positive influence on the global company's sustainability management and communication, there was very little communication of social and environmental information associated with the local company.

This change in management issue was more prevalent for web based sustainability communication. This is largely due to the fact that websites are global and, therefore, the entire company was responsible as well as liable for whatever appeared in any of the subsidiary's websites. Interviewee B2 stated that the audience for hardcopy reports could be limited to local stakeholders and that this could not be done for its universal website. Potential stakeholders all over the world had access to the website. The issue was further complicated by web based sustainability communication processes being not only periodic but also ad hoc.

There were profound changes in Company B's website during the period of this study. Initially, the Company had a range of social and environmental information, specific details for contacting its sustainability personnel and had limited reference to its global company. However, midway through this research, its website was restructured and a lot of the detailed information was summarised. Moreover, as indicated by the

interviewees, a local feel to the website was absent as local contact details were not provided and it was also observed that there was extensive reference to the global company and its website. During this stage of the website analysis, it was observed that major sections on legal and privacy issues were created, which was attributed by the interviewees to the litigious environment existing in the host country of the global company.

Any social and environmental information to be placed on the website had to go through headquarters and a formal signoff was required. There was also a need to have information on the local website that was consistent with information about the global company:

*There is a strong push from [headquarters] to stop regional offices from having their own websites and to have their own reporting. Part of why this has happened is that, with the takeover, we are a global company and have single set of values and culture. (Interviewee B1)*

This restriction limited the creativity and independence of the local branch staff as well as reduced their control over their website. It was not clear what impact this had on the local company's stakeholders:

*Our sustainability communication has specifically changed a little bit in the last 12 months as the responsibility has gone to [headquarters].*

*And I think the willingness to disclose information is greater in Australia than in the US. They have more legal considerations that they have to make when they publish information so it makes it more difficult to do so. For us, they provide more general overview type of information whereas in the past the information we have put out is far more detailed. Unfortunately, it will go through a vetting process and, with tougher legislative requirements, a lot of detail will be reduced.*

*So, basically, because people have access to so much information on the web, their expectation for the information is heightened. (Interviewee B2)*

The change in management philosophy affected local personnel, who were unable to utilise the benefits of the web for sustainability communication:

*If we restrict what content we put on it from a [local company] perspective, then I think we are losing some reputational value, in my view.*

*In the US, I think the legal people worry about too much disclosure and I think that impacts on what we can and cannot do, being a US company. When we were an Australian company, we rightly or wrongly had less concerns about it, even though we always had our legal counsel review whatever we put on the website. We seemed to have the ability to convey more information via the website when we were purely an Australian company.*

*I think it has definitely had an impact, and hopefully over time we can work through that issue with the headquarters, allowing more information to be put up. (Interviewee B3)*

Company B undertook other approaches to counter the restrictions in its web based sustainability communication practice. This included engaging directly with stakeholders, using media releases and making extensive presentations in relation to

social and environmental matters. These were later archived on its website. However, at the end of the data collection for this research, it was observed that Company B had a small representation on the global website as opposed to having its own website. Thus, its ability to communicate social and environmental issues to stakeholders effectively was reduced.

As discussed previously, our website analysis of Company A indicated its move to continuous communication. An extensive range of social and environmental information was provided on a regular basis. However, towards the end of the research process, no new information was placed on the website, a situation that persisted till the end of the research. Thus, it appeared that there was an abrupt halt to Company A's web based sustainability communication practice.

After the completion of the data collection for this research, news reports indicated that Company A was taken over. The last interviews had indicated that the company was subject to a takeover bid. However, interviewees felt that this bid would not affect its web based sustainability communication practice. They stated that it was 'business as usual'. However, since the completion of this research, the company's website no longer exists. Unlike Company B, this Company has not retained its organisational identity. Therefore, its web based sustainability communication practices have ceased when it was taken over. Thus, the change in management philosophy had an adverse impact on Company A's existing practices.

Past social and environmental reports revealed that Company C also had a change in management in recent years as a result of a merger. However, the interviewees revealed that this factor did not lead to a change in its sustainability communication philosophy. Interviewee C1 was probed in the final interview about whether the extensive changes in the company's approach to sustainability communication from 2001 onwards was a result of the merger. He replied:

*Well, sustainability communication evolves all the time. We have changed our reporting and communication practice on a very regular basis in response to community expectations and interests...So I am not sure if it is directly linked to the merger. It is reflective of the fact that this is a dynamic agenda.*

The Company's web based sustainability communication practice since the completion of this research is essentially the same as that observed during the data collection process of this research.

To sum up, the anecdotal evidence related to a change in management philosophy presented here suggests that this is a critical factor that could restrict web based sustainability communication. An analysis of websites indicated that Company A was one of the leaders in web based sustainability communication that had an abrupt halt

to its practice. Company B was also restricted in its web usage for sustainability communication. Its practice showed conflict between global concerns and local needs.

Even though the current study illustrates the adverse effects of a change in management philosophy, future research is needed to ascertain if this is always the case. For instance, a change in management philosophy could have a positive effect on sustainability communication if the takeover company's internal organisational factors and external stakeholder influences prompt the organisation to regard sustainability as a critical issue for all its subsidiaries. It would also be of interest to explore whether multinationals in certain countries with stringent legal issues are more concerned about the web based sustainability communication of their subsidiaries when compared with multinationals in other countries.

The change in management philosophy finding in this research was also raised in the study by Campbell (2000). The change in chairman of Marks and Spencer influenced its social and environmental disclosure at certain time periods, leading the author to contend that in addition to legitimacy constraints, managerial reality could also impact such disclosure.

## **Discussion**

In line with Laughlin (1995), this study expands the skeletal theory developed at the outset of this paper in order to provide a context dependent theory of web based sustainability communication. Figure 2 highlights the revised research framework for this study. The basic premises of stakeholder and legitimacy theory, the widely utilised theoretical perspectives in sustainability reporting research (Deegan, 2002) are captured by the internal organisational and external stakeholder factors in this framework. Corporate attitudes towards sustainability and stakeholders are explained by legitimacy considerations. Stakeholder influences could also prompt an internal organisational response, which could be to undertake various activities to legitimise corporate existence. However, the framework extends stakeholder and legitimacy considerations by relating these issues to web based sustainability communication. Moreover, it also suggests that additional factors such as economic issues and strategic intent (part of internal organisational factors) and our findings from the field, the double-edged sword and change in management philosophy impact the use of the potential of the web for sustainability communication.

Figure 2 illustrates that in addition to economic, internal organisational and external stakeholder influences, which can both enable as well as constrain web based sustainability communication, two other factors are critical in determining the use of the communication potential of the web. These include the double-edged sword, which can limit the potential of the web for communication, and a change in

management philosophy, which could either limit or even enhance web based sustainability communication.

As discussed previously, the framework developed for this paper is contingent on a particular context. The importance of the factors in this framework varied across all three companies in this study. This is summed up in table 3.

Economic factors did impede interactive use of the web across all three companies but had a positive effect on use of other web capabilities. Internal organisational factors varied across all three companies while external stakeholder influences was very critical for two of the companies. The double-edged sword limited web based sustainability communication to varying degrees in all three companies. Moreover, even though the change management philosophy did not have an impact on Company C, it was the dominant factor that explained web based sustainability communication in Company B and in Company A at the end of the data collection research process for this study.

**Figure 2 here**

**Table 3 here**

## **Conclusions**

This paper highlights that web based sustainability communication is influenced by a number of critical factors that extend beyond the major theoretical perspectives of sustainability reporting. Stakeholder and legitimacy considerations partially represented the internal organisational (corporate attitudes) as well as the external stakeholder influences in this research. However, the work by Ullmann (1985) and Adams (2002) suggested that corporate characteristics (economic factors) and internal organisational factors (corporate attitudes and resulting processes) could also be applied to web based sustainability communication. These insights provided the foundations for a skeletal research framework that was able to capture the factors influencing web based sustainability communication in a particular social and environmentally sensitive industry. Findings from the field highlighted that the double-edged sword effect and a change in management philosophy also influenced web based sustainability communication, thereby expanding the skeletal framework. This provides credence to the argument that a range of factors affect the use of the web for such communication. The research framework developed in this study provides a theoretical perspective for exploring web based sustainability communication and could be applied to others contexts and extended further.



This paper contributes to the academic literature by focusing on the factors that influence the use of the potential of a particular medium for communication – namely, the web. A research framework was developed and applied to a specific context (Australian minerals industry) in order to provide an in-depth understanding of the use of the potential of the web for sustainability communication. The study also contributes to the limited literature on web based sustainability communication through its in-depth findings in relation to three companies in the Australian minerals industry.

The research benefits practice by providing an understanding of the factors affecting web based sustainability communication in a social and environmentally sensitive industry. This provides practitioners with an appreciation of the issues which enable or constrain web based sustainability communication. It will benefit companies that are undertaking or seeking to undertake such communication. Stakeholders of these companies will also be able to comprehend the different contexts in which the potential of the web can be utilised for sustainability communication and become aware of possible impediments that need to be addressed in order to enable effective practice. One policy implication of this study is that industry associations as well as regulators can play a vital role in enabling the practice of web based sustainability communication.

The research framework developed in this study can be applied and modified to studies of different contexts. It would be useful to undertake studies of other industries, particularly social, and environmentally sensitive industries in Australia or globally. The research framework can also be revised and applied to those industries that do not have highly visible social and environmental impacts and/or constant stakeholder pressures. Studies using larger sample sizes can also be undertaken in order to extend the explanatory power of the research framework. These studies could include the use of surveys to complement website analysis and interviews.

Future research into sustainability communication should consider the impact of the use of the medium. The evidence in this paper suggests that the use of a particular communication medium – the web – is affected by a range of factors that have the potential to explain current practices. There is a need for studies that consider the communication potential of the web.

Whilst the existing literature has explored social and environmental information content in a range of media (Zeghal and Ahmed, 1990; Frost *et al.* 2005), there is a need for studies that consider the influences driving the use of the different media available to communicate social and environmental issues. The current study can be extended to consider the factors impacting the choice of a range of media, such as annual reports, social and environmental reports, media releases, newsletters, advertisements, brochures, and the web, for social and environmental disclosure.

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## **Appendix**

### **Initial interview questions**

1. What is your position within the company? What are your responsibilities in relation to sustainability issues and for how long have you had this role in the company?
2. Who do you consider to be the key stakeholders of the company in relation to its social and environmental impacts and how do you manage these stakeholders?
3. What are some of the management motivations for communicating sustainability information to these stakeholders?
4. What are the various media used for communicating sustainability information to stakeholders?
5. The focus of this research is on the use of the web for communicating sustainability issues to stakeholder. Could you identify who would be the appropriate people within the organization to talk to about this matter?
6. Do you have any additional comments in relation to the issues we have raised in this interview?

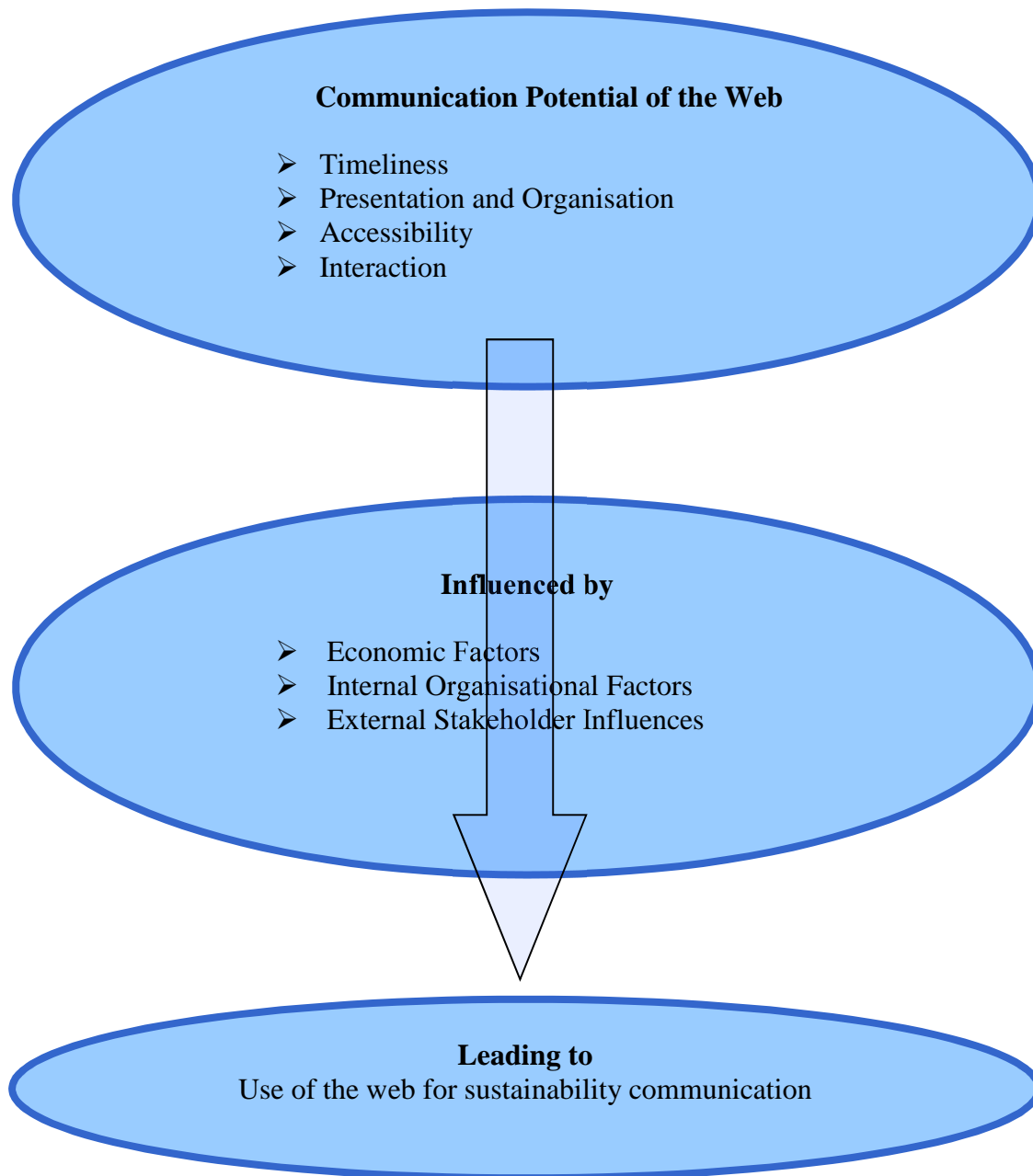
### **Second series of interviews**

1. What is your position here and for how long have you been with the company? What are your main job responsibilities?
2. What role does the corporate website have in the organisation's sustainability communication practice?
3. What impact do economic considerations have on the web based sustainability communication practice of the company? Probe further for economic factors
4. What are some of the management motivations for communicating sustainability information on the web? Probe further for corporate attitudes
5. Are there any strategic considerations for communicating sustainability information through the web? Probe further for corporate processes
6. Do stakeholders influence the company's web based sustainability communication? How? Probe further for external stakeholder influences
7. Are there any other issues related to this interview that you would like to raise?

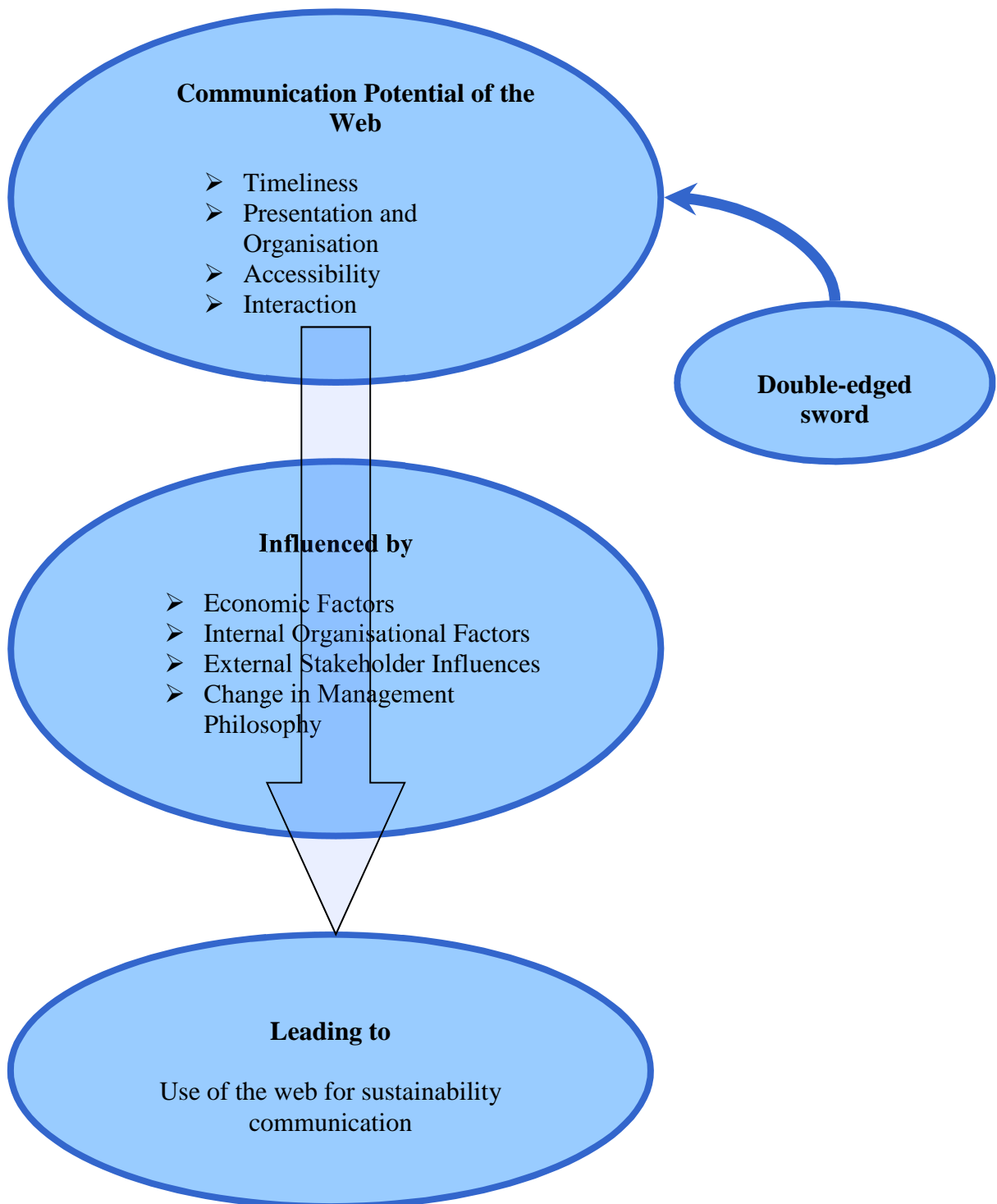
### **Final interviews**

1. Probe for factors identified in earlier interviews – including double edged sword and change in management philosophy.
2. Are there any other issues you would like to raise in relation to possible influences on your web based sustainability communication practice?

**Figure 1: The research framework for this study**



**Figure 2: The revised research framework**



**Table 1: An overview of companies selected for the case studies**

Company	Details
A	<ul style="list-style-type: none"><li>• A local Australian company that had been the leader in sustainability communication in Australia.</li><li>• Had its own website and its headquarters was based in Australia.</li></ul>
B	<ul style="list-style-type: none"><li>• A former local Australian company which was recently taken over by a US corporation. While it was regarded as a local branch of this company, it still retained its Australian management and the majority of its sustainability communication processes had remained the same.</li><li>• Had its own Australian website, which was also linked to its parent company's global website.</li></ul>
C	<ul style="list-style-type: none"><li>• A former Australian company, which recently merged with a foreign multinational corporation. It had its headquarters in Australia.</li><li>• Had a global website with an extensive Australian representation.</li></ul>

**Table 2: Interviewee Profiles**

<i>Interviewee</i>	<i>Position</i>	<i>Job responsibilities</i>	<i>When interviewed</i>	<i>Management level</i>
A1	General Manager – Environment, Health, Safety and Social Development	Managed the web based sustainability communication practice of the company	Interview 1,2,3	Senior
A2	Public Affairs Manager	Assisted the sustainability staff in web based communication by placing information on the website and managing the website	Interview 2,3	Middle
B1	Manager – Communications	Used to coordinate the public sustainability communication process. Now has to liaise with headquarters as well	Interview 2,3	Middle
B2	Manager Environment	Assists General Manager – Environment with sustainability communication	Interview 1	Middle
B3	General Manager – Environment	Provides sustainability information for communication purposes	Interview 2,3	Senior
C1	Vice-president – Sustainable Development	Has the overall responsibility for sustainability communication in web based and hardcopy form	Interview 1,2,3	Senior / Executive
C2	Web Content Manager	Places sustainability information on websites and manages the corporate website.	Interview 2,3	Middle

**Table 3: Impact of factors on web based sustainability communication in the three companies**

<i>Factor</i>	<i>Company A</i>	<i>Company B</i>	<i>Company C</i>
<i>Economic</i>	Some effect on limiting interaction, otherwise small (positive) effect on web based sustainability communication	Some effect on limiting interaction, otherwise small (positive) effect on web based sustainability communication	Some effect on limiting interaction, otherwise small (positive) effect on web based sustainability communication
<i>Internal Organisational</i>	Critical factor	Corporate attitudes positive but strategic response limited.	Critical factor but conservative strategic response.
<i>External stakeholder influence</i>	Critical factor	Some effect on web based sustainability communication	Critical factor
<i>Double-edged sword</i>	Limited interactive use of web	Limited presentation, timeliness and interactive use of web	Limited timeliness and interactive use of the web
<i>Change in management Philosophy</i>	Very critical at the end of the research process	Most critical factor	No impact