# The impact of Social Networking 2.0 on organisations

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**Abstract**

The purpose of this paper is to increase the understanding of what electronic social networking encompasses. The article also aims to educate IT, business decision-makers and knowledge workers about the various applications benefits and risks associated with social networking.

After a literature review of the available resources (academic literature, journal articles, white papers, popular media and books) the benefits and perceived risks associated with electronic social networking on organisations are investigated.

An individuals' success in society depends on the shape and size of his social network and his ability to network and form connections with other social groups. Organisations who can harness this innate human ability to manage knowledge will be able to lower transactions costs and become more profitable. This article increases the understanding of: what electronic social networking encompasses and how it can be utilised for business purposes

**Keywords –**   Social Networking

Web 2.0

Knowledge Management

Social connections

Computer Mediated Communication

**Paper type –** Literature review

## 1.  Introduction

With the advent of Web 2.0 technologies the younger generation of Internet users is rewriting the rules of social interaction, and the way business is conducted.  By utilising electronic media and Web 2.0 tools such as Wiki's, blogs, tagging and social bookmarking, new and ingenious methods of social interaction across geographic borders and industry silos are being created (Fu, Liu & Wang 2007; IBM 2007).

In as little as five years this innovative electronic social applications have crept into the business domain.  Many reasons have been cited for the popularity of electronic social networking amongst office workers, with the most notable being the availability of laptops, low cost Internet access, working from home, and the increasing erosion of traditional concepts of office hours (Shirky 2008; Tapscott & Williams 2006).   During 2007 ClearSwift commissioned research to determine the extent to which social media sites are being used. They found:

- 83% of US office workers used office resources to access social media;
- 30% of office workers in the US and 42% of UK office workers admitted to discussing work-related issues via social media applications;
- 40.8% of IT and business decision-makers indicated that they believed that social media is relevant in today's corporate environment; and
- only 11.1% of IT and business leaders were already making use of social media in their businesses.

(ClearSwift 2007a)

A review of academic peer-reviewed research conducted since the emergence of social networking using Web 2.0 technologies has revealed that current research are mainly focusing on what social networking is, how social networks are structured and distributed and why social networks exist. The majority of research performed to address the associated risks and organisational value of Web 2.0 technologies has been conducted by private organisations such as *inter alia* Clearswift, Gardner, IBM, KPMG and MessageLabs*.

The aim of this research study is to identify the benefits and associated risks of social networking in organisations, which will allow organisational leaders and IT decision-makers to understand the scope and impact of social networking.

## 1.1 Objective and research methodology

Social Networking, incorporating Web 2.0 technologies, has been credited with the ability to expand social contacts, accelerate business processes, the improvement of customer relations, cost-effective recruitment of high-calibre staff, and the improvement of morale, motivation and job satisfaction among staff. On the negative side this form of Social Networking has gained the reputation of negatively effecting staff productivity, and with many companies fearing damage to productivity and reputation (MessageLabs 2007b).

Gourville's rule of thumb states that the advantages of a new technology will be underestimated by a factor of three, while the disadvantages of giving up old technology will be overestimated by a factor of three (Ariyur 2008). The reason being that new ideas do not have a proven track record, as opposed to old ideas (Brown & Duguid 2000:154). This means that unless Social Networking 2.0 is ten times more effective than the old way of conducting business, it is unlikely to be widely accepted.

This article aims to educate organisational leaders, IT decision-makers and knowledge workers about the benefits and disadvantages associated with the implementation of Social Networking 2.0 in their organisations. In order to achieve this aim the author undertook a

study of available resources, which included academic literature, journal articles, white papers, popular media and books.

Although the purpose of the study is to develop a methodology to evaluate the risks and benefits associated with electronic social networking, this research is not intended too be a document in which the technical issues regarding the functioning of Web 2.0 technologies will be addressed.

## 1.2  Organisation of the research

In section 2 the current literature available will be utilised to create a definition for Social Networking 2.0.  The definition will then be used to create a set of criteria to determine whether a social networking application complies with the definition and falls within the scope of this research.

The perceived advantages of utilising electronic social networking will be discussed in section 3.  Section 4 focuses on the reasons against the implementation of electronic social networking and the key risks will be identified.  The study is concluded in section 5.

## 2.  Defining the next generation of Web-based electronic social networking

Human interaction and collaboration usually takes place within groups.  These groups are formed around a shared relationship, goal or project.  Groups require the ability to interact with other groups to share their knowledge and expertise in order for the group to be successful and innovative.  The advent of computer networks and the Internet has made it possible for group interaction to take place regardless of geographic location or time zone, and the incorporation of Web 2.0 technologies has made this interaction and co-operation more fluid, cost effective and easily maintained.

The term widely used to describe the new from of Internet usage is Web 2.0. Although interested parties have not been able to reach an agreement regarding the definition of Web 2.0, it can loosely be defined as the perceived second generation of Web-based platforms. These platforms consist out of applications specifically designed to aid online collaboration and user-generated content sharing (Clearswift 2007a; Matuszak 2007; O'Reilly 2005).

Table 1 summarises the more popular technologies which are relevant to social networking:

**Table 1:  Web 2.0 technologies**

| Technology | Description |
|---|---|
| Blogging (Web blog) | Blogs are a self publishing tool that resembles online journals where an owner can periodically post messages.  Readers can subscribe to a blog, link to it, share links, post comments in an interactive format and indicate their social relationship to other bloggers who read the particular blog. |
| Wikis | A wiki is a Website that allows online collaboration by allowing multiple users to add, remove or edit content and change content.  It also allows linking among any number of pages. |
| Social Bookmarking | Social bookmarking allows users to post their lists of bookmarks or favourite Websites for other users to search and view. |
| Tagging | Tagging is the use of key words to track content on Websites.  It can be used as a form of social bookmarking, were a user can gain access to all the content identified by other users and linked to the specific key word. |
| Really Simple Syndication (RSS) | A Web feed format used to publish frequently updated content.  It lets users subscribe to their favourite "feeds" receiving automatic updates. |

| Collaborative real time editor | An application that allows simultaneous editing of a text or media file by different participants on a network. |
|---|---|

<div align="right">(Sources: ClearSwift 2007a,b; Godwin-Jones 2006; Matuszak 2007)</div>

Although Table 1 cannot be seen as an exhaustive list of all Web 2.0 technologies currently available, it emphasises the nature of Web 2.0 technologies with its focus on online collaboration and sharing of mainly user-generated content (ClearSwift 2007a,b; O'Reilly 2005). Due to the nature of Web 2.0 technologies it is easily adopted by users as a tool to aid social networking in the virtual world.

There are many terms used by the public and academics to describe this new wave of Web experiences and social networking. These terms include, but are not limited to: Social Networking, Web 2.0, Virtual Communities, E-communities, Online Communities, Social Networking Software, Collaborative Software and Social Network Services (Boyd & Ellison 2007; Rosen 2007; Shirky 2008 *et al*). When these new technologies and applications find their way into the business domain, they are often referred to as Enterprise 2.0, Enterprise Web 2.0 or Enterprise Social Software (Matuszak 2007, McAfee 2006a,b).

The problem with these terms is that they are not properly defined and therefore can mean different things in different contexts and for different users (Boyd & Ellison 2007; ClearSwift 2007b). For example electronic social networking can incorporate Web 2.0 technologies or it can be seen as a form of Web 2.0 technology (ClearSwift 2007b; Matuszak 2007; O'Reilly 2005).

For the purposes of this research this syndication of electronic social networking and Web 2.0 technologies will be referred to as Social Networking 2.0, in order to differentiate it from more traditional social networking and the earlier forms of Web- based electronic social networking.

Social Networking 2.0 applications should create and manage a digital expression of people's personal relationships or links, by offering automatic address book updates and viewable profiles.  These applications should also aid in the identification and conversion of potential ties into weak or strong ties by providing "introduction services" and allowing users to display their knowledge, experience and expertise in a searchable format (Boyd S. 2006; ClearSwift 2007a).

The components that should be present to comply with these criteria can be summarised as follows:

- The application must build a digital expression of personal relationships and links (Boyd S. 2006);
- It must aid in the discovery of potential ties (Granovetter 1973); and
- It should aid in the conversion of potential ties into weak and strong ties (Granovetter 1983).

Social Networking 2.0 can therefore be defined as applications or websites that support the maintenance of personal relationships, the discovery of potential relationships and should aid in the conversion of potential ties into weak and strong ties, by utilising emergent Web 2.0 technologies.

In order for an individual to determine whether he wishes to create a connection with another person he will require some form of social feedback.  Social feedback is essential in the formation of a digital reputation (also known as karma or whuffie) and it allows other users to rate the contributions of others (Boyd S. 2006; Brown & Duguid 2008).  Digital reputation assists users to determine if a person possess over the knowledge, experience and expertise he claims to have, and whether the creation of a weak or a strong tie with that individual would be advantageous.

Traditional communication methods employed on the Internet utilised communication channels where information are communicated top-down or in one direction. The emphasis of Social Networking 2.0 applications and Websites lies with two-way conversations were all participants have the opportunity to participate and share opinions and knowledge (MessageLabs 2007b).

In order to qualify as Social Networking 2.0, two or more of the following modes of computer mediated communication should be used:

a) One-on-one (e.g. e-mail or instant messaging for private and confidential communications);
b) One-to-many or one-to-few (e.g. Web pages and blogs); and/or
c) Many-to-many or few-to-few (e.g. wikis and whiteboards)

(Boyd & Ellison 2007)

The definition and components of Social Networking 2.0 can be summarised in Table 2.

**Table 2: Social Networking 2.0 requirements**

| Criteria: | Component: |
|---|---|
| **1. Support social networking**<br><br>(Must contain all three components) | 1. Build a digital expression of people's personal relationships and links. |
| | 2. Aid in the discovery of potential ties. |
| | 3. Aid in conversion of potential ties into weak or strong ties. |
| **2. Support two or more modes of computer mediated communication**<br>(Must contain at least two components) | 1. One-on-one |
| | 2. One-to-many / one-to-few |
| | 3. Many-to-many / few-to-few |

| 3. Allow social feedback | Contributions by a member are rated by other users. |
|---|---|

## 3. Benefits associated with Social Networking 2.0

"It's not who you know, it's what who you know knows." (Noshir Contractor)

According to John Brown and Paul Duguid knowledge can be defined by three criteria, namely:  knowledge is associated with a knower, knowledge is embedded in the knower, and to become a knower a person needs to be committed to understanding the information presented to him (Brown & Duguid 2008:119:120).  In organisations this knowledge comprises experience, specialist skills and the practical knowledge of how the organisational processes operate (Orlikowski 2002).

Social Networking 2.0 provides users with the ability to create a global list of contact details (either in a graphical or text-based format) of people with whom they have strong professional ties, co-workers, colleagues and people they do business with, who they trust enough to be associated with and even recommend to others (Gorge 2007).

This contact list is different from other electronic directories in that the information is linked directly to the profiles created and maintained by the contact himself, allowing for automatic updates of changes to contact details, current activities, interest and specialist skills and expertise, in a searchable format (Boyd S. 2006; ClearSwift 2007a).

These graphical expressions of personal relationships which can be acquired over the span of an entire career, allow users to identify mutual relationships which can be exploited for introductions or recommendations (Boyd S. 2006; Gorge 2007; Granovetter 2004).

An important function of the office social system is the provision of a collaborative learning environment, in which problems encountered are collectively solved and solutions are shared among peers, bridging the gap between procedures and practise (Boshoff & du Plessis 2008; Brown & Duguid 2000; Cairncross 2001:132; Davenport 2001, Orlikwoski 2002).

This natural flow of knowledge is severely disrupted in distributed organisations, spanning across various service lines, departments, geographical regions and time zones (Brown & Duguid 2000:78). Don Tapscott and Anthony Williams noted that knowledge is increasingly being viewed as a product of networked people and organisations that are looking for new solutions to specific problems (Tapscott & Williams 2006:153).

In hierarchical organisations, where knowledge workers are grouped together in specialist lines of service or processes, weak ties becomes more important, in order to be able to gain access to specialist knowledge and information present in other social networks (lines of services) (Granovetter 1973, 1983, 2004). Organisational resources are often wasted when employees have to reinvent fixes or solutions to problems, which have already been created by someone else within the organisation (Brown & Duguid 2000:112; IBM 2007). In a perfect knowledge management system, all knowledge is non-rival and it should only be produced once. Any additional resources incurred should increase its value and accuracy to eliminate mistakes and deficiencies encountered in the past (Benkler 2006:36,37,373).

Knowledge and information typically span across many types of communication tools, document formats, desktop applications, and sources within and outside the firewall, and can include e-mail, faxes, instant messages, manuals, spreadsheets, and presentations. The integration of different modes of computer mediated communications into one application allows knowledge workers to aggregate information in an efficient manner, by allowing users to add labels (through links, tags and social bookmarks) to make material more persistent for easy retrieval and sharing (Brown & Duguid 2000:200; Cairncross 2001:132; IBM 2007).

Productivity and workflow are often hampered by the use of e-mail, instant messages and telephone calls. Synchronous or real time communication (such as telephone calls and meetings) can be time consuming, interruptive and cause decreased productivity, while asynchronous or delayed communications (such as e-mail) are often misused and overused (Burger & Rensleigh 2007; Richtel 2008).

Social Networking 2.0 can assist organisations to create an online resource containing the accumulated wisdom of the organisation, by allowing knowledge to be codified, searched and shared (Cairncross 2001:131, 134; IBM 2007). By decreasing the use of e-mails and other disruptive communication methods, the use of asynchronous communication methods, such as blogs and wikis, can increase productivity and work flow efficiency.

Other examples include:

- Tagging and social bookmarking allow colleagues to search for and locate experts and "look over their shoulders" at the industry articles, blogs, manuals, wiki's and other information that the expert finds useful, and so discover answers and solutions without interrupting them with e-mail, instant messages or telephone calls (Godwin-Jones 2006; IBM 2007).
- Allowing users to contribute to discussions, planning and decision making, when they have the time to do it, in an open forum, without the need to send and resend e-mails to all participants (Ariyur 2008).
- Allowing users to always have access to the latest version of a document and to contribute to the understanding thereof by adding annotations and links to external sources (Godwin-Jones 2006).

Table 3 illustrates examples of what would constitute effective and appropriate use of some of the computer mediated communication tools included in Social Networking 2.0.

**Table 3: Uses of computer mediated communication tools**

| Computer mediated communication tools: **One-on-one** (Example: **E-mail)** | |
|---|---|
| 1 | Time critical communications (Andreson, Bergman & Hallen 2006) |
| 2 | Private and personal communications (Andreson, Bergman & Hallen 2006) |
| 3 | Confidential or sensitive information (Andreson, Bergman & Hallen 2006) |
| Computer mediated communication tools:  **One-to-many** (Example: **Blogs)** | |
| 1 | "Push" ideas to a broad audience and share knowledge in a narrative format (Brown & Duguid 2000:106; IBM 2007) |
| 2 | Traditional communications, such as newsletters (ClearSwift 2007b) |
| 3 | Informal forums for discussing issues with staff, customers and partners (ClearSwift 2007b; Godwin-Jones 2007) |
| 4 | Answering questions (Godwin-Jones 2007) |
| Computer mediated communication tools**: Many-to-many** (Example: **Wikis)** | |
| 1 | Questions and answers (Matuszak 2007) |
| 2 | Collaborative planning, joint decision making (Ariyur 2008) |
| 3 | Knowledge capture and classification (ClearSwift 2007b) |

Maintaining staff morale and job satisfaction, while maintaining discipline and productivity has become one of the biggest challenges to managers.  Advocates of Social Networking 2.0 and collaboration tools argue that these open platforms can take the friction out of collaboration (Tapscott & Williams 2006:96-94), create a culture of sharing (IBM 2007) and increase job satisfaction and in so doing increase productivity.

Peter Kollock argued that there are four motivations for people to contribute knowledge, expertise and time without the expectation of receiving a direct benefit (monitory or otherwise) in return (Smith & Kollock 1999:227-229).  These findings can be summarised as follows:

A person can be motivated to contribute valuable information to the group, by expecting to receive useful help and information in return (Graham & Hall 2004; Smith & Kollock 1999:227). This can lead to a culture of sharing knowledge and expertise (IBM 2007).

Social Networking 2.0 reward contributions through ratings, feedback, and the creation of a following (people who link to, or subscribe to your work). This digital reputation serves to recognise a person's contributions to and beyond the immediate group, and places a value on the individual's knowledge and knowledge creation abilities (Brown & Duguid 2000:112; IBM 2007; Smith & Kollock 1999:228). This increased visibility satisfies most individual's desire for prestige and recognition and increases their job satisfaction (IBM 2007, Smith & Kollock 1999:228).

People can be motivated to share in groups due to a desire to have an effect on their environment by doing good things (Shirky 2008:131-133; Smith & Kollock 1999:228). Clay Shirky (2008) noted that more people are motivated to contribute to bad contributions (which they desire to make better), than by the desire to start a new article from scratch.

Individuals can be motivated to share innovation in the hope that the community will improve it and therefore the innovation would be more useful to themselves. This is often seen in the open source movement (Benkler 2006:42; Smith & Kollock 1999:228)

These transparent processes (where all contributions are seen and responded to by the community) can assist communities in the co-creation of solutions where no "buy-in" are necessary, because teams are emotionally committed to an agreed upon solution or plan (Ariyur 2008).

One of the areas where Social Networking 2.0 will have the biggest impact on organisations is in the continual communication with costumers and the public, advocated by Social Networking 2.0. This open communication can have an impact on the organisations'

perceived image or brand and their image of being innovative and market leaders, by aiding in the following:

Customer relations are improved by allowing customers direct access to information, for which they would previously have had to telephone, or e-mail.  This eliminates frustration caused by delays (Brown & Duguid 2000:77; Cairncross 2001:132; ClearSwift 2007b).  It is estimated that three-quarters of UK Social Networkers have already visited profiles set up by companies, on sites such as MySpace and Facebook, to promote particular brands (IBM 2007; MessageLabs 2007b).

Social Networking 2.0 can also be used as a viral marketing tool, where people are encouraged to voluntarily pass marketing messages on through word-of-mouth (IBM 2007). Viral promotions may include video clips, Flash games, e-books, free software, images and text messages.

Innovation can be encouraged by monitoring customer communications, feedback and opinions (Matuszak 2007; Tapscott & Williams 2006:93-94). This continuous communication with customers can be used for solution development by utilising customer opinions in making key product decisions (IBM 2007).

## 4.   The negative impact and risks associated with Social Networking 2.0

Many organisations already utilise some form of electronic directory containing contact information of staff, clients, suppliers and other role players, and it could be argued that another directory is not necessary (Cairncross 2001:133).  These lists can either be maintained in the Contacts application in Microsoft Outlook, or similar e-mail applications, or maintained as a spreadsheet by a responsible staff member, and have to be continuously updated when contacts move offices, change telephone numbers, e-mail addresses and employers; and some degree of link rotting (when contact information are not up to date) may take place (Brown & Duguid 2000:201).

The new open directory services utilised by Social Networking 2.0 allows people to gain access to a large volume of information, which can then be used in a social engineering attack (KasperskyLab 2008; Leitch & Warren 2006).  Spammers and virus-writers can set up false profiles and trawl through Social Networking Sites (including Blogs) gathering information about job titles, phone numbers, e-mail addresses, etc. (MessageLabs 2007b).

Fake profiles, blogs and other networking tools, can contain links to other Websites that download unwanted spyware or adware, or the posting itself can contain a flash file with an embedded virus or worm (ClearSwift 2007d, MessageLabs 2007b).  The goal of the majority of malware is to cause data leakage.

One of the biggest concerns regarding social networking platforms is that productivity will be effected negatively because employees may spend too much time networking and posting entries on blogs and wiki's.  There is also a risk that employees will utilise it for more social purposes and not on work related postings (Ariyur 2008; ClearSwift 2007b; MessageLabs 2007b; Shirky 2008:121-120).  This can have serious implications with regards to the capacity and utilisation of servers and networks, with bandwidth being congested with multimedia contents which are often not work related (ClearSwift 2007d, MessageLabs 2007b).

In typical organisations knowledge is usually managed by grouping knowledge workers (knowers) into processes or lines of service, in which processes and requirements are communicated downwards by management, thus providing clear lines of responsibility and communication channels.  In this hierarchical structure new employees need only one connection, which is their manager, to obtain the relevant knowledge he will require to perform his work, either through one-on-one communication, training programs, training manuals, or procedure manuals (Benkler 2006:314; Cairncross 2001:133; Coase 1937; Shirky 2008:29).  New knowledge is also produced within these closed, hierarchical groups (Tapscott & Williams 2006:153).

In Social Networking 2.0 applications knowledge is no longer created in controlled hierarchical groups.  User generated information created using collaboration tools, such as blogs and wiki's, allow anybody to add and edit content, including unanticipated players who are not subject matter experts (Ariyur 2008; ClearSwift 2007b).   This peer produced knowledge may not be as reliable as procedures and manuals generated by specialist staff and communicated down the chain of command. Vandalism and misinformation caused by employees can leave employers open to legal action (under the principle of vicarious liability), whereby employers are responsible for negligent acts or omissions by their employees in the course of their work, even if those acts are accidental (ClearSwift 2007c).

The ability to link, tag and social bookmark are some of the key features of Social Networking 2.0, making it easy to share, label, and find information. Many employers are concerned about the potential loss of confidential information by an unguarded (or malicious) comment or link created by an employee, which could then result in company embarrassment, financial damage, legal liability or possible security risks (ClearSwift 2007b; MessageLabs 2007b; NETconsent Limited 2004).

Damage to organisational reputation can also be caused by articles appearing in the press about employees being dismissed by an organisation for inappropriate use of office resources (NETconsent Limited 2004).  Staff posting negative comments about their organisation, clients and colleagues online can become easy to find via an online search and may be available for an unlimited time (ClearSwift 2007b; MessageLabs 2007a,b).

Another serious concern is the forum social tools create in which  former and dissatisfied customers can criticise and complain about the organisation creating a public image of the organisation which are outside the organisation's control (Shirky 2008:179).

The impact (both negative and positive) of Social Networking 2.0 can be summarised in Table 4:

**Table 4:  Impact of Social Networking 2.0 on organisations**

| | Perceived Positive | Perceived Negative |
|---|---|---|
| 1 | Up to date contact information linked to user maintained profiles. | Potential source of information which can be used in social engineering attacks. |
| 2 | Identification of experts, opportunities and potential business partners. | Spammers and virus-writers can set up false profiles. |
| 3 | Increased productivity and workflow efficiency. | Decreased productivity caused by employees spending to much time networking and posting entries on blogs and wiki's. |
| 4 | Increased staff motivation and sense of community through the accumulation of a digital reputation. | |
| 4 | Retention of cumulative organisational knowledge and experience in a fully searchable format. | User generated content can be unreliable. |
| | | Potential loss of confidential or sensitive information. |
| 5 | More effective, appropriate and efficient use of computer mediated communication technologies. | Resource waste with regards to bandwidth, server and network utilisation. |

| | | |
|---|---|---|
| 6 | The ability to influence the perception of the organisation and / or brands through improved customer relations, viral marketing and innovation. | Damage to organisational reputation either through intentional acts of vandalism and misinformation or through negligent acts or omissions. |

## 5. Conclusion

The aim of this research study was to identify the benefits and associated risks of social networking on organisations, which will allow organisational leaders, IT decision-makers and knowledge workers to understand the scope and impact of Social Networking 2.0 on their organisations.

Social Networking 2.0 can be defined as the utilisation of Web 2.0 technologies by applications or websites to support the maintenance of personal relationships, the discovery of potential relationships and to aid in the conversion of potential ties into weak and strong ties.

The reasons for and against the implementation of electronic social networking as a knowledge management tool, were identified. Reasons for the implementation of Social Networking 2.0 showed that social networking platforms increase productivity, workflow efficiency, staff motivation and innovation by allowing:

- users to use computer mediated communication technologies more effectively and appropriately to collaborate with co-workers;
- the identification of experts, opportunities and potential collaborators outside the knowledge workers traditional organisational channel; and

- the retention of cumulative organisational knowledge and experience in a searchable format.

Some of the key reasons against the implementation of Social Networking 2.0 are:

- The perceived advantages of the existing hierarchical organisational structure where knowledge workers are grouped into channels and information are communicated in one direction as opposed to the open platform approach advocated by emergent Web-based platforms;

- There is a fear that social networking platforms will have a negative effect on productivity; and

- The potential loss of confidential or sensitive data through negligent or malicious acts by employees or through social engineering or malware attacks.

This research focused on the impact of Social Networking 2.0 on organisations with specific emphasis on the perceived benefits and negative effects on business. There exists a need for future research regarding the risks and methods to mitigate the impact of these risks. It can only be hypothesised whether the identification and implementation of risk mitigation procedures will lead to the benefits of allowing social networking in organisations to out way the negative perceptions organisational leaders currently have.

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