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What has the internet ever done for employees? A review, map and research agenda

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Abstract

Purpose – The main purpose of this paper is to assess the extent to which employees have benefitted in the internet age and to identify research gaps that surround such activities.

Design/methodology/approach – The approach is a combination of a systematic literature review and an empirical analysis of secondary data drawn from press reports of emergent employee internet activities.

Findings – The internet continues to provide fresh and exciting opportunities for the employee to explore in relation to furthering employment-related interests. However, the internet very much represents a “double-edged sword” in that the many advantages of the internet can be quickly cancelled out by employer attempts to monitor, control, and exploit for themselves such activities, for their own ends. It is also evident that a full assessment of some activities cannot be made without further research.

Research limitations/implications – The paper is reliant on extant literature and resources that are known to have limited scholarly application.

Practical implications – A broad and eclectic discussion of employee internet activities is likely to be of interest to academics and human resource practitioners whose interests are based on a blend of employee relations practices and new internet-based technological developments.

Social implications – The study addresses how a distinct actor in employee relations has faired in an age denoted by shrinking opportunities for collective action, yet also denoted by rapid developments in empowering user-generated and social networking forms of information communication technology.

Originality/value – This paper synthesises literature and data from a wide range of largely incongruous academic and non-academic sub-disciplines to provide a fresh and authoritative account of emergent employee behaviour.

Keywords Internet, Employees, Employee exchanges, Communication technologies, Computer applications

Paper type Research paper

Introduction

In the early days of the internet this new form of communication was seen as some sort of “beacon of hope” for individuals fragmented and disempowered by the forces of advanced capitalism (Barglow, 1994). Castells (2002), moreover, claimed that internet communication technologies could augment powers of social organisation and integration. Indeed, over time, it has been clearly demonstrated that the internet has become a focal point for almost every human activity and interest (Haythornthwaite and Wellman, 2002). However, it is fair to say that we just do not know how certain groups, such as employees, have faired in the internet age, especially as the internet age (early 1990s onward) is also defined by a period of significant decline in traditional collectivised employee activities related to trade union memberships, collective
bargaining and strike action (Kersley et al., 2006; Barratt, 2009; Hale, 2010). We also do not know how employees have fared as a result of more recent significant changes in internet communication technologies, such as those associated with user-generated blogging and social networking platforms. This is especially concerning as new forms of internet communication technologies clearly have more potential for self-organisation and individual action than static web sites (Web 1.0) that previously required high levels of technical expertise to set up and maintain.

As such, the purpose of this paper is to attempt to investigate how employees have fared throughout the entire internet age, with particular emphasis on the past five to ten years. This is done by investigating the many growing applications employees have for changing and evolving internet communication technologies. What is meant by investigating employee applications of the internet is to consider a range of pertinent questions. First, what can employees apply the internet for? Second, how has the arrival of user-generated forms of internet communication technologies, such as blogs and social networking platforms, changed the nature of what employees can apply the internet for? Third and most importantly, have employees benefitted from such changes or is it the case that it is far from clear what benefits employees can derive from living in an ever-changing and evolving internet age? As such, the scope of this paper is very large, yet is clearly defined and limited by a critical assessment of what the internet age has allowed employees to do.

To do this the paper is organised into four sections. First, there is a brief overview and discussion of the internet age with particular attention given to the shift from Web 1.0 to Web 2.0 forms of internet communication technologies, and how such technologies have crept into the employment and organisation-related scholarly debates. Second, the methodological approach of the paper is outlined and discussed. In this instance methodological approaches involving a systematic reviewing processes and the re-analysis of secondary data are examined. Third, there will be an in-depth discussion of both early and more recent employee applications for the internet. It is important to recognise early employee applications for the internet, as such practices are likely to continue today, yet may be so ingrained in personal habits or institutionalised in organisational policies and practices that they are rarely reflected upon, especially in comparison with more recent developments in internet-based communication technologies. It is also important to recognise how more long-standing employee applications for the internet have expanded somewhat to reflect the increasing social, inclusivity and informal nature of such communication technologies. Fourth, and finally, there will be an overall discussion that is intended to reflect upon the broader significance of such activities. As such, the final section of the paper involves a reflection on the limitations of the current study, a map to reflect the main findings, as well as pointing towards future research opportunities in this emergent and growing sub-discipline of employment and organisational related study.

The evolution of the internet and arrival of the internet in employment and organisational scholarly debates

It has been said that the primary objective and nature of the early internet (early 1990s to early 2000s) – now widely referred to as Web 1.0 – was to publish information for easy access by anyone using an internet-connected web browser (Murugesan, 2009). However, in the first few years of the twenty-first century, new internet technologies
emerged that no longer limited web-pages to asymmetrical broadcasts of information and opinion (Herring et al., 2004). What is crucial to note about such developments – denoted by the rise of blogs and micro-blogging, social networking sites, virtual worlds, peer-to-peer file sharing sites and wikis – is that new internet communication technologies massively decrease the technical knowledge to post information to the internet and that ordinary people need no longer be the passive recipients of web-page information (Kolbitsch and Maurer, 2006). In 2004 Tim O’Reilly invented the term “Web 2.0” to define the apparent shift from an expert level information-centric and read-only web to a forum of social interaction based on an amateur-driven read-write web. Despite criticisms of such amateurish beginnings (Keen, 2007) the past five years has seen Web 2.0 communication technologies increasingly deployed for business and societal application (Murugesan, 2009). This is to such an extent that some commentators believe the broader Web 2.0 movement should best be understood as part of a wider human rights movement (Birdsall, 2007).

Generally, the internet has become an increasingly debated aspect in the study of employment and overlapping academic disciplines. For instance, in its early guise of being an elite-led and asymmetrical broadcast of information and opinion, scholars across the broad and eclectic domain of employment and organisational-related studies discussed the internet in relation to new employee possibilities for flexible working practices and job hunting (Applebee et al., 2000; Bentley and Yoong, 2000; Breure and van Meel, 2003), misbehaviour (Wen and Lin, 1998; Block, 2001; Lim, 2002), and, union revitalisation (Pliskin et al., 1997; Diamond and Freeman, 2002; Walker, 2002; Martinez-Lucio, 2003). Further, studies that touch on the emergent social dimension of the internet point towards other applications for employees. Possibilities for employees under the new internet include new spaces for employees to share employment and career-related knowledge and enthusiasm (Matzat, 2004; Kaiser et al., 2007; Efimova, 2009; Martin et al., 2009), push for more polyphonic forms of trade union representation (Carter et al., 2003; Saundry et al., 2007), and, create new opportunities for individualistic and self-organised forms of resistance and expression under contemporary labour processes (Taylor and Bain, 2003; Schoneboom, 2007; Richards, 2008b; Ellis and Richards, 2009).

However, as shall become apparent later in the current research, it appears that employment and organisational-related scholarly research is struggling to keep up with or is aloof in a way to the latest internet developments, such as, increasingly applied and mainstream social networking sites (e.g. Facebook and LinkedIn) micro-blogging facilities (e.g. Twitter) user-generated video-sharing sites (e.g. YouTube) as well as recognising the pace at which employees experiment and adapt such technologies to serve their many employment-related interests. For instance, the following press reports of recent employee application for the internet are yet to attract scholarly attention – details of an emergent knowledge-management tool where employees can access and rate colleague expertise (Chubb, 2008), a teacher “twittering” from the classroom via a internet-connected mobile phone (BBC News, 2009a), the application of Second Life to mount a “virtual strike” (Blackadder, 2007), and, an office junior sacked for branding work as “boring” using Facebook (Swann, 2009).

As such, an important contribution of the current research is to analyse and map out a wide-range of extant academic research and emergent press reports so as to allow us
Methodology

It would be a tall order to make an empirical assessment of how employees have fared in an era that stretches back almost 20 years. Indeed, the methodology that underpins this paper reflects the difficulties of such a demanding, yet not completely impossible task. As such, the primary methodological approach adopted in the current research involves a systematic review of the extant literature on a subject that is steadily becoming a focus of scholarly discussion and debate in a range of academic sub-disciplines related to the broader field of studying work organisations and employment. Sub-disciplines discussed in this paper include organisational behaviour (OB), human resource management (HRM), industrial relations and industrial sociology. In preparation for the current research 63 studies involving significant reference to employee application of the internet were initially identified. This figure was reduced to 47 studies when similarities between studies were eliminated.

A systematic review is deemed to be an appropriate choice to help answer the main research questions as it helps the development of a reliable knowledge base through the accumulation of knowledge from a range of studies (Tranfield et al., 2003). Key principals of a systematic review are said to involve bringing together as many already existing studies as relevant, irrespective of the nature and background of such literature (Thorpe et al., 2005). Crucially, a systematic review involves exploring the relationships between key variables under scrutiny (Pittaway, 2004). However, it should be acknowledged in advance that there are potential problems associated with bringing together incongruous paradigms surrounding the study of work organisations and employment (Richards, 2008a).

As a means to complement the advantages of a systematic review, the methodological approach taken in the current paper is expanded to include a degree of empirical analysis of secondary data. In this case what constitutes secondary data comprises reputable reports of employee applications for the internet. Finding press reports of such activities involved the researcher monitoring and recording press reports (the broader sample of press reports are available on the author’s personal blog (http://workblogging.blogspot.com/) over a five year period (April 2005 to May 2010) with only the most distinctive reports used in the current research. However, the current paper only contains reference to 21 press reports of such activities – massively less than the number observed and recorded by the researcher during the past five years. The rationale for considering such an approach is that the lengthy lead times involved in scholarly output is quite incompatible with the pace at which internet communication technologies have developed and how employees have learnt to adapt to such new internet communication technologies. Further, given such realities, it is quite possible that scholarly research may miss out on important trends in how employees apply internet communication technologies and instead concentrate on either what is new or risk researching that may be irrelevant or outdated when the times comes to consider publishing such findings. The main methodological motivation to take such initiative is that using press reports as data makes them ideal
for investigating new and additional research questions, providing due care is taken when selecting such forms of data (Heaton, 2004).

In practice, the process of mounting a systematic review of the extant literature and the empirical analysis of secondary data began with a consideration of the following key variables. The first and most important variable by which extant literature and press reports were analysed involved the identification of distinct employee applications for the internet. The second stage of analysis involved attempts to separate out employee applications that relate to the paradigmatic internet-based shift from Web 1.0 to Web 2.0 communication technologies. A further and most crucial stage of analysis centred on an assessment of whether identified internet applications appeared to be of benefit or disadvantage to employees. Generally, it was fairly straightforward to align scholarly research and press reports with the analysis of such variables, yet in some cases this required a degree of interpretation.

**Web 1.0 and employee internet application**

Given the existing long-term and wide-ranging nature of scholarly research in relation to the study of employment and work organisations, it is of no surprise to find that research that relates to employee application of the internet is divided on similar grounds. In other words, no one field comes close to exploring the full range of early identified employee applications for the internet. The following sub-sections review a sample of such research based around conventional employment-related domains, such as, HRM, OB and industrial relations. However, as there is little mention of early employee application of the internet in the field of industrial sociology, this dimension of employment-related study is left for subsequent sections of the current research.

*Flexible working and job hunting*

Reviewing literature that relates to the practice of HRM allows a distinct way in which to view early employee application of the internet. It clearly demonstrates, for example, that the internet allows the employee flexibility in terms of where work can be done and the chance to more readily access information about job opportunities. Examples of what employees can expect to achieve from using the internet include a contemporary means to interact and keep in contact with colleagues (Bentley and Yoong, 2000), access, often on a remote basis, vital resources and knowledge systems for job purposes (Applebee et al., 2000; Ruggeri Stevens and McElhill, 2000; Breure and van Meel, 2003), take part in distance learning programmes (Homitz and Berge, 2008), and, find a job and seek out career-related information (Miller and McDaniels, 2001; Fountain, 2005; Jansen et al., 2005; Hagglund, 2006). It would seem, therefore, that employee application of the internet is understood in this domain in two particular ways. First, the internet represents a tool that employers seem keen to encourage their employees to apply in relation to their formal job remit, particularly in the case of accessing business-related information quickly and efficiently in the non-office setting. Second, and closely linked to the previous point, such activities should also be understood in terms of accessing information that allows employees to develop in their roles either within or outside current employment.

However, there are also downsides in relation to early employee applications for the internet. For one there is often, as Jansen et al. (2005) suggests, a significant mismatch between the terms applied by employers to advertise jobs and opportunities on the
internet and the terms applied by employees when searching for such jobs and opportunities via the internet. As such, searching for employment-related information via the early internet was often far from an effortless task and it was not unusual for it to be a laborious, fruitless and frustrating activity. Indeed, Fountain (2005) believes a key problem with early internet-based job search is that there was too much labour market information available via this medium of communication, and even when good information could be found, there were serious difficulties associated with evaluating such information. Further downsides to the early internet include information overload caused by excessive quantities of information (Ruggeri Stevens and McElhill, 2000) and that the idea of nomadic working is typically overly romanticised, with the office being the employees’ preference to get work done (Bentley and Yoong, 2000; Breure and van Meel, 2003). What is more, there is a subjective side to employee application of the internet. For example, Applebee et al. (2000) found many employees who rated themselves as only having beginner-level information communication technology (ICT) skills – usually more than enough for most internet applications – fall some way short of exploiting the internet to the full.

New opportunities for pursuing personal interests and coping on work time
Not all the management-orientated literature that surrounds employee application of the internet portrays such activities in a positive light. However, even if some employee internet application is viewed by one party to the employment relationship as deviant, we should not dismiss such acts as being unimportant facets of employee internet application. Indeed, it is quite evident to see from the OB domain that employee application, or perhaps employee misapplication of the internet, has also attracted a significant amount of scholarly attention. Examples of such activity conducted instead of, or concurrent to, official employee duties includes downloading MP3 music files and accessing streamed media (Valli, 2004), surfing for non-work related information (Wen and Lin, 1998), moonlighting for extra income (Adler et al., 2008), shopping (Chen et al., 2008), viewing pornography (Young and Case, 2004), gambling (Blanchard and Henle, 2008), conducting domestic chores (Block, 2001), looking up football scores (Lim, 2002), and, trading stock shares (Griffiths, 2003). This list is far from exhaustive and merely serves to represent what is typically the basis for further scholarly contemplation of how to manage what became, even in such a short period of time, common employee applications for the internet on work time. For some scholars this is principally viewed as deviant activity, but for some this is evidence of employees seeking to cope with mundane or unchallenging employment.

In terms of defining employee application of the internet in this sub-domain, it is typical to hear of labels most would interpret as having negative connotations. For instance, employee misapplication of the internet is commonly referred as “cyberloafing” (Blanchard and Henle, 2008; Lim and Teo, 2005; Lim, 2002), “cyberslacking” (Block, 2001; Garrett and Danziger, 2008), “internet abuse” (Griffiths, 2003; Chen et al., 2008; Young and Case, 2004), “non-business use of the WWW” (Valli, 2004), and, “internet deviance” (De Lara, 2006). In more detail, Lim (2002, p. 677) defines cyberloafing as:

[..] any voluntary act of employees’ using the companies’ internet access during office hours to surf non-job related web sites for personal purposes and to check (including receiving and sending) personal e-mail [..].

What has the internet done for employees?
Other definitions associate early employee internet application with work-avoidance strategies (Garrett and Danziger, 2008) and engaging in general non-business internet activities on company time and using company resources (Block, 2001). However, some believe that there are two primary forms of employee internet misapplication in the work setting: minor acts such as sending and receiving e-mails, and, more serious acts that breach wider and more entrenched social norms and mores, and include online gambling and surfing adult orientated web sites on work time (Blanchard and Henle, 2008). Indeed, there seems to be a consensus in this domain that misapplication of the internet on work time is caused by a combination of employee personality weaknesses and a failure by managements to control such activities (Chen et al., 2008). Ultimately, in this domain, employee application of the internet tends to be understood and investigated in terms of lost productivity and deviating from policies designed to foster employee compliance and engagement with broader corporate objectives and obligations. Further, it would appear that misbehaviour of this kind is largely fuelled by how internet communication technologies have the potential to allow unprecedented and potentially unlimited access to the world outside the work setting, on work time and mainly at the expense of the employer.

Receiving information from the union
Employee application of the internet can also be understood separate to managerialist views of such activities. Indeed, if we consider literature from the field of industrial relations it can be clearly seen how employee application of the internet can also be understood in terms of trade union activity. More specifically, early studies from this field tend to centre on the possible role of the internet in trade union revitalisation. For instance, as one early study that relates the internet to possibilities for collective labour suggests:

Our principle conclusion is that the internet offers unions great opportunities to improve services and attract members because it bridges the gap between an increasingly heterogeneous and individualistic work-force and the collective activity and solidarity that lies at the heart of trade unionism (Diamond and Freeman, 2002, p. 570).

Diamond and Freeman, however, deliver a stark warning to those who believe trade unions need do no more than simply invest in internet communication technologies:

If, because of organisational rigidities, unions fail to exploit opportunities of the web, we expect other organisations – internet recruitment firms, occupational associations, ethnic or gender-based groups – to do so (Diamond and Freeman, 2002, p. 570).

Indeed, further studies in this domain explore the role of the early internet in relation to trade union re-vitalisation. For instance, Martinez-Lucio (2003) sees the internet as being vital to trade unions in terms of making information readily available to members and activists, typically in the form of static web-sites and mailing lists. Ward and Lusoli (2003) in turn, believe the internet and associated technologies should allow trade unions a new and novel way to modernise and democratise. However, Ward found little evidence of trade unions making gains on the back of the early introduction of such communication technologies, with trade unions failing to exploit such technologies to recruit new members, cater for existing members, and run effective public relations campaigns. Further studies that consider possibilities for trade union revitalisation in relation to the early internet present a more positive, yet cautionary
view of what role the internet may be able to play in union revitalisation. For example, Pliskin et al. (1997) found e-mail helped a trade union secure a successful outcome to an industrial dispute. Barnett (2003), moreover, found that internet-based communications helped maintain solidarity between striking press workers far more than conventional picketing activities. Further studies suggest the internet can play a central role in the education of trade union activists (Walker, 2002), as well as form an important starting point for emergent models of union organising based on individual service provision (Bjorkman and Huzzard, 2005). However, it is apparent from such discussions that it is far from clear if employees, as trade union members, benefitted in the early internet age.

**Web 2.0 and employee internet application**

The shift from Web 1.0 to Web 2.0 should clearly not be seen as a singular event that happened over a few months during the first few years of the twenty-first century. The changes occurred over several years (and continue to do so in the present day) and for most part of this transition there was almost no explicit reference in the relevant academic literature to the terms Web 1.0 or Web 2.0. As such, literature and press reports discussed in this section have been selected on the basis of making explicit or implicit reference to new forms of internet communication technologies. The following section, as such, is sub-divided on the basis of discussing Web 2.0 communication technologies in relation to peer-based forms of knowledge transfer, even greater opportunities for misbehaviour, new forms of trade union organisation, and new opportunities for subversion under contemporary labour processes.

**Expressing passion for work**

In the HRM domain the basis of the research seems to concern employees actively seeking to share personally held knowledge of jobs or organisational systems by way of Web 2.0 communication technologies. The outcome of creating such knowledge via new communication technologies appears to greatly benefit employees and employers who invest in such practices. Indeed, a range of scholarly studies have emerged over the past few years that considers how new internet communication technologies, such as blogs, wikis, social networking sites, lead to positive flows of knowledge within and between work settings. For instance, there is evidence that employees who apply the new internet appear more willing than ever to develop and maintain professional relationships when assigned to work in virtual teams (Brown et al., 2007), to help mentor junior employees through distance or organisational learning programmes (Homitz and Berge, 2008), and, to create peer-based networks of personal knowledge that in some cases extends out of the employer organisation to involve similar types of employees or other interested parties, such as customers (DeFillippi et al., 2003; Matzat, 2004; Bryen, 2006; Kaiser et al., 2007; Bradwell and Reeves, 2008; Efimova, 2009; Martin et al., 2009). Generally, such trends represent evidence of a shift from centralised, elite-based and restricted knowledge sharing to decentralised, peer-led and far less restricted knowledge sharing practices.

Key findings to emerge from this genre of research seem to promote Web 2.0 communication technologies as having engaging or even intoxicating qualities in that there is a wide-range of emergent evidence to support the view that employees appear overwhelmingly taken in by Web 2.0 knowledge sharing practices. For instance, Kaiser
et al., (2007, p. 392) believe employee blogs “have distinct technological features that unleash passion for engaging in knowledge work”. Efimova (2009), moreover, explains how this may work in the work setting:

In Microsoft weblogs are used to support work in a variety of ways. They provide a space where bloggers share passion for their work and communicate with others across hierarchical geographical or organisational borders. Weblogs are used to engage with customers and to change the image of the company. They help to organise ideas serving as a personal knowledge base, and to document work practices, all in a place where others could benefit and provide a feedback. Using a weblog also results in an increased visibility of specific ideas expertise and opinions of its author (Efimova, 2009, p. 191).

Further findings support the belief that employers who encourage employee application of Web 2.0 communication technologies in the work setting see returns in terms of increased organisational learning, and sharing knowledge and experiences (Martin et al., 2009). More generally, other advantages for employees in such situations includes developing effective networking skills that can play a vital role in reducing social isolation and stress associated with social isolation (Bryen, 2006), creating a level of credibility in a relevant occupational field (DeFillippi et al., 2003), and, allowing convenient links to be maintained between employee and former colleagues (Bradwell and Reeves, 2008). Overall, in this domain the scholarly evaluation of employee application of Web 2.0 communication technologies appears quite advanced and up-to-date. However, press reports suggest a small level of continuation in employee internet-related innovations. Such innovations include knowledge management practices that involve moving away from blogs and the experimental up-take of recent web phenomena such as Facebook, LinkedIn and Twitter (Baker, 2009), technological advance, that allows peers to easily “score” or “tag” an employee as “experts” (Chubb, 2008), and, because such internet activity is usually available to any internet user there is also the chance that the employee may develop a wider reputation or status as a result of such activities (Mannino, 2009).

Socially-organised misbehaviour
There appears to be little if any explicit recognition of the shift from Web 1.0 to Web 2.0 in the scholarly fields that surround employee misbehaviour. However, as shall be demonstrated, there has been a steady stream of press reports detailing new internet-based forms of employee misbehaviour. The necessity is to consider how such acts compare with acts of misbehaviour discussed in the previous section. Before we can attempt to consider a comparative exercise a selection of employee internet-based misbehaviour is provided in Table I. This figure should be used as a reference point for the current sub-section.

With Web 1.0 and employee misbehaviour it has been previously stated that a major purpose of such activity surrounds the avoidance of work (Garrett and Danziger, 2008) or indulge in domestic and broader non-work interests on work time via the organisation’s IT systems (Block, 2001). While there is no doubt such activities continue to occur in the work setting, and pose serious problems for employers despite panoptical and disciplinary-based attempts to manage such misapplication, the evolution of the internet and the technologies associated with internet access appears to have further increased the possibilities for employee internet-based misbehaviour. In short, the activities outlined in Table I go beyond cyberslacking and cyberloafing and
at the same time clearly challenge existing views of employee-related internet deviance. Such acts, moreover, present expanded opportunities for employees to play games on work time, mock management practices and customers, and pursue interests that may conflict with professional obligations.

In more detail, it is first of all apparent that some of the misbehaviour noted in Table I involves employees accessing the internet outside the work setting. For instance, it is unlikely that the employees involved in the majority of the cases noted in Table I posted messages, photographs and videos exclusively via employer-owned internet-connected computers. As such, internet misbehaviour appears to be conducted increasingly, at least in part, outside the work setting, and at the same time is noted for being more socially organised. Second, all acts of misbehaviour are externally directed suggesting internet misbehaviour is increasingly an inter-organisational socially organised phenomenon. Third, particularly in the case of the teacher posting messages to her Twitter feed, the act involved a mobile internet-connected device – something that employers are likely to have far less control over when compared with their own ICT systems and hardware. Fourth, a downside for employees using Web 2.0 is there appears to be a very new way that employers can catch employees breaching codes of

<table>
<thead>
<tr>
<th>New internet employee misbehaviour</th>
<th>Press report details</th>
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<tbody>
<tr>
<td>1. An employee infiltrates employer official Twitter feed to post a message saying: “VodafoneUK is fed up of dirty homo’s and is going after beaver”</td>
<td>Wray and Arthur (2010)</td>
</tr>
<tr>
<td>2. A nurse is suspended amid reports that photos of patients having operations were posted on the social networking site Facebook</td>
<td>BBC News (2010a)</td>
</tr>
<tr>
<td>3. Staff at a hospital face possible dismissal after posting online pictures of themselves taking part in the “Lying down game”</td>
<td>BBC News (2009b)</td>
</tr>
<tr>
<td>4. Staff at shops owned by an electronic retailer have been caught insulting customers on a social networking site</td>
<td>BBC News (2009c)</td>
</tr>
<tr>
<td>5. A prison officer is dismissed for gross misconduct after being caught making friends with inmates on the social networking web site Facebook</td>
<td>BBC News (2009d)</td>
</tr>
<tr>
<td>6. A secondary school teacher posts messages discussing her pupils on a social networking web site (Twitter) and is now being investigated by her employers</td>
<td>BBC News (2009a)</td>
</tr>
<tr>
<td>7. Thirteen cabin crew staff sacked by international airline over their application of a social networking web site to call passengers “chavs”</td>
<td>BBC News (2008a)</td>
</tr>
<tr>
<td>8. A senior police officer loses out on the chance to become a Chief Inspector after he was found to have posted very personal information on the internet</td>
<td>BBC News (2008b)</td>
</tr>
<tr>
<td>9. A supermarket retailer launches an investigation after videos showing supposed current and former employees engaging in a variety of pranks in the company’s stores were posted on video-sharing web site YouTube</td>
<td>The Guardian (2007)</td>
</tr>
<tr>
<td>10. Staff of politicians (US senators and congressmen) burnishing the entry of their employer in Wikipedia (staff of US Senators and Congressmen)</td>
<td>Barkham (2006)</td>
</tr>
</tbody>
</table>

Table I. Ten examples of new internet employee misbehaviour
conduct. For example, employees posting confidential images and details of inappropriate relationships, and overly frank details of personal lives to the internet. Finally, such activities also have clear potential to provoke new forms of conflict between employee and employer because of how new communication technologies overly blur the distinction between work and non-work activities. Taking all these observations together, it is reasonable at the very least to suggest that scholars need to revisit and reconceptualise employee internet-based misbehaviour.

**Polyphonic trade unionism and novel forms of industrial protest**

In the previous section it was suggested that it was far from clear if employees derived significant benefits when trade unions first took to the internet. Indeed, important survey-based studies (e.g. Kersley *et al.*, 2006; Barratt, 2009; Hale, 2010) that focus on key trends in trade union power and influence, such as, memberships, employer recognition, collective bargaining and strike action, seems to suggest that organised labour fell some way short of exploiting the early internet. However, during the early-mid decade of the twenty-first century a small number of researchers considered whether the new internet could provide trade unions with something the early internet could not. Indeed, such considerations prove to be all the more important as the latest research in the field of industrial relations suggests trade union members are more intense users of ICTs than their non-unionised counterparts (Masters *et al.*, 2010).

An early case study of trade union activity and the new internet actually involved, ironically, a bitter and lengthy “unofficial” dispute between the Dockers of Liverpool and Mersey Docks and Harbour Company. In reality, the Dockers’ trade union decided not to make the dispute official as it would make them vulnerable to major fines and sequestration of their funds. However, it was this cruel twist of fate that may have allowed organised labour to re-think how it applies the internet as part of recruiting and mobilising its memberships. What is important to note is how a global internet-based campaign that surrounded this unofficial dispute allowed activists to produce new forms of power and representation. Indeed it was argued by Carter *et al.* (2003, p. 302) that the internet “equipped the Dockers with new discursive frameworks allowing them to move beyond traditional trade union discourses and practices”. As such, in the absence of official and centralised trade union leadership, new internet-facilitated polyphonic forms of self-organisation allowed new and flexible forms of power and representation to emerge. However, a broadly similar study conducted by Saundry *et al.* (2007) casts some level of doubt on the viability of polyphonic models of trade union organisation. Crucially, while they acknowledge that virtual forums designed to encourage employees to correspond with each other in a manner typical of the “old union hall” are important new developments for individuals and trade unions, they also believe the prospect of something more substantive to emerge from such settings is limited. Saundry *et al.‘s* (2007) main criticisms of polyphonic models of organisation are summarised below:

First, one of the main selling points of internet networks is their lack of organisation and hierarchy. Any attempt to adopt a clearer identity will ultimately undermine this. Second, their effectiveness and attraction lie in their ability to focus on a specific issue or narrow range of concerns that are directly relevant to users. The development of a more substantive organisational form would invariably imply a broader remit that has limited relevance to potential members. Third, they are dependent on anonymity which inevitably undermines
any attempt to develop more substantive identity. Perhaps most importantly these “organisations” do not have the necessary expertise, know-how or institutional interface that trade unions possess (Saundry et al., 2007, pp. 188-189).

Interestingly, press reports, most of which are written by experienced labour correspondents, seem to put a more positive spin on the idea of trade unions benefitting from the new internet. For instance, press reports frequently discuss novel forms of industrial protest or organising campaigns. An example of a new and novel form of industrial action includes a “strike” conducted in Second Life (Blackadder, 2007). Here protestors using avatars disrupted a meeting held by their employer in this virtual world. Another example comprises supporters of striking retail employees organising, via social networking sites and hand-held internet capable devices, a “flash mob” (Union Renewal blog, 2008). Details of the flash mob incident are retold via the keepers of Union Renewal blog as such:

[...] almost 100 activists turned the store’s shoe department into chaos … People took their time at the checkout causing long waiting lines only to decide not to purchase their article after all.

A further novel application by trade union activists involves using social networking sites to “drum up support” for a trade union recognition campaign (Hencke, 2007). Generally, at whatever level and depth we have available to examine trade union applications for the traditional or new internet, it remains very difficult to judge the level of extra benefit an employee may gain from being a member of an internet savvy trade union.

News spaces for self-organised employee resistance
Surprisingly, there is very little mention of the early internet in the field of industrial sociology and particularly in relation to studies and theories that surround labour process analysis. Indeed, where references to the possibilities of linking subversive employee behaviour and the internet are made they tend to be overly general. Amongst such scholars are Collinson and Ackroyd (2005) who, in referring to Naomi Klein’s No Logo work on anti-globalisation, believe the internet to be a valuable tool for spreading information about multinationals around the globe. Richards’ (2008a) broad discussion of age-old and emergent forms of employee subversive behaviour, moreover, asserts how the internet should be taken far more seriously by critical researchers as a tool and framework for employee-based defiant activities. In terms of empirical labour process studies of employee subversion and the internet perhaps the only early standout contribution is Taylor and Bain’s (2003) work on humour as subversion in call centre employment. In this instance, Taylor and Bain discuss how company e-mail systems allow a very efficient and new way by which employees can circulate generic and self-authored material aimed at mocking “high-powered” management meetings and management attempts to monitor and control the minutiae of a call operator’s daily routine.

However, we should probably fully acknowledge the role press reporting has played in inspiring a range of studies characterised by a critical approach to the study of labour in the internet age. For instance, press reports have clearly been first to inform the world about employees who blog about their views and experiences of employment
The war in Vietnam is often referred to as the first war on television and the wars in Afghanistan and now in Iraq will be known as the first wars to be blogged. A new generation of soldier bloggers in the US known as milbloggers are both fighting in the field and writing about their experiences. It is opening up a new window on modern warfare and is creating a new genre of war-time writing. However, some of these pioneering frontline bloggers fear that the golden age of milblogging has already passed as military officials begin to clamp down on the unfettered online writing (Anderson, 2005).

The activities of work bloggers have been at the forefront of ongoing press reports of such activity, yet are typically interpreted for wider public consumption on the basis of being blatant acts of deviant behaviour (see, e.g. Spencer, 2005; Joyce, 2005; Berger, 2005). Further, in more recent years, press reports have been keen to sensationalise an apparent employee shift from publicly-viewable work blogging forums to more exclusive, self-organised social networking forums, such as, the “groups” feature on Facebook. Facebook-styled examples of employee subversion include an office worker sacked for branding work as boring (Swann, 2009), airline cabin crew sacked for criticising the employer’s safety standards (BBC News, 2008a), an Israeli soldier “relieved of duties” after posting details of “clean up raid” on a Palestinian settlement (BBC, 2010b), and, airline cabin crew releasing a list of strike-breakers for broader collegial and media consumption (Davies, 2010). Given that the internet is such a vast body of information and social interaction and such information and social interaction is variously easy or difficult to locate or access, it is important to note the extent to which the mass media and employers have become deeply embroiled in such activities that did not exist just five or so years ago.

Where critical scholars have made in-roads into the study of the new internet the emphasis has so far been on employees using blogs and yet to move into the far more difficult methodological terrains of social networking sites. Key concerns raised by such scholars suggest employees should be afforded some level of protection when judged by employers to have made disparaging remarks about the company (Coté, 2007). Further, writers have also attempted to clarify the legal status of such activities by comparing networks of bloggers to “the new union hall” and how these social spaces should attract comprehensive legal protection similar to what union halls received in the days of old (Gely and Bierman, 2006). Recent empirical studies of work blogging practices, however, perhaps represent the most in-depth and rigorous insights into such practices so far. For instance, Schoneboom’s (2007) study demonstrates how blogging forums are examples of new places for identity formation and a means to share a common disdain for corporate language. Moreover, Richards (2008b) observed how work blogging led to exciting new potential for self-organised and narrative-based forms of employee resistance. A further study by Ellis and Richards (2009) also suggests that work blogging practices offer the individual employee a voice free of hierarchy or the usual trappings that generally render the ordinary employee silent. All in all, studies that emerge from this domain indicate significant and ongoing potential for informal employee subversion practices by way of employee-led narratives, as well as tricky yet new and novel challenges and ethical dilemmas for critical researchers.
Discussion and conclusions: what has the internet ever done for employees?
The final section is based on the following. First, limitations of the current research will be discussed. Second, there will be a brief summary of the opportunities afforded to the employee founded on the shift from the old to the new internet. Third, conventional and emergent opportunities afforded to the employee in the internet age are mapped out and further scrutinised in terms of the realities associated with such activities. Finally, there will be a summary of the many research opportunities and scholarly challenges that emerge from the current study.

Study limitations
The current study is clearly noted by a range of strengths and weaknesses. Primarily, strengths should be seen in terms of drawing on a full and eclectic range of scholarly research, as well as attempting to fuse less reliable, yet significant sources of data, to present a longitudinal, up-to-date and critical assessment of employee applications for the internet. A further strength is in how the extant research and emergent press reports were discussed in terms of how the internet has been theorised in recent years (e.g. see Murugesan, 2009). However, it is also the case that the current research is limited in many ways too. For instance, press reports are indicators of what may well be happening in the internet domain, but do not really allow us to assess in any real depth how prevalent and effective new and emergent internet-related activities actually are. Further, there are conceptual issues too, in that the vast majority of scholarly research that relates to employee application of the internet is far from congruous and rarely makes explicit reference to the advances apparent in internet communication technologies. Finally, it has just not been possible to pay attention and acknowledge the finer details of all the resources used in this review, and it is quite possible that some of the finer details may have been lost due to the broad objectives of the current research. In short, while every effort has been made to conduct a robust and rigorous systematic review of the extant literature and apply empirical analysis to secondary resources, such efforts must be understood in terms of the realities of analysing the work of many and work of various standing, in such a short piece of work.

Expanding opportunities for employees in the internet age
Over the course of the main body of this paper there has been a discussion of how employee application of the internet has evolved since the internet started to become a common feature of working and broader everyday life from the mid-1990s onwards (Haythornthwaite and Wellman, 2002). The discussion suggests there has, indeed, been a level of evolution in how employees engage with internet technologies broadly in line with how internet technologies have evolved. There is strong evidence, as such, to suggest that employees have moved some way beyond being passive recipients of web-based information (Kolbitsch and Maurer, 2006). There is also some level of evidence that part of this broader trend corresponds well with Birdsell’s view (Birdsell, 2007) of Web 2.0 being part of a larger human rights movement. To allow such ideas to be visually and more easily digested, the details of this apparent shift is summarised in Figure 1.
Figure 1, for example, is a diagrammatical summary of the evident (and ongoing) expansion of employee application of the internet, moving from the very early days of the internet up until the current era that is characterised more than ever by the Web 2.0 format. However, it should be restated that employee application of the internet under the Web 1.0 format are very much with us today and that Web 2.0 represents, more than anything else, expanded employee opportunities in the present internet age. Indeed, in Figure 2 it can be seen how early employee internet applications, based mainly on asymmetrical broadcasts of information and opinion (Herring et al., 2004), have recently been superseded, via the social and read-write web, with opportunities to self-organise knowledge networks, co-ordinate more sophisticated and complex forms of misbehaviour across work time and space, influence trade union strategies, and, mount informal and self-organised challenges to managerial authority. What is more, while we cannot predict future developments in internet communication technologies, it is probably safe to say, by way of emergent and ongoing press accounts of such activities, that employee application of the internet is likely to expand further in the future, even if we cannot say what that may look like at the present moment. However, it should also be acknowledged that Table Two does not cater for the realities associated with employee application of the internet.
Mapping and assessing employee opportunities in the internet age

Figure 2

Disadvantages of the Internet
- Semantics of searching and interpretation of information
- Time consuming
- Monitored by employers and press
- Addictive nature of technology
- Access to labour markets and career-related information
- Access knowledge management systems
- Manage domestic affairs on work time
- Breakout opportunities

Employee application of the Internet
- Flexible working
- Contact with colleagues and non-work associates
- Distance or virtual learning
- Overcome isolation
- Develop reputation outside work organisation
- Enhanced teamworking opportunities
- Create peer-based knowledge networks
- Medium to arrange industrial action and sustain solidarity
- Contact and access information from trade union or staff body
- Over-commitment to readership
- Unclear/unsupportive employment law
- Blurred boundaries between work and non-work
- Unclear how powerful groups can be influenced by employees, e.g., trade union, public, employers

What has the internet done for employees?
Mapping and assessing early and new employee applications for the internet

In one sense the systematic review and empirical analysis of an eclectic range of scholarly literature and press reports of employee applications for both the old and new internet allows us to create a detailed map of such expanding activities. However, we must also provide a balanced picture in terms of presenting the realities that typically surrounds such activities. As can been in Figure 2 (a summary of the main points to come from earlier discussions), first and foremost, this is a map of employee application of the internet that represents both Web 1.0 and Web 2.0 versions of the internet. In other words, Figure 2 shows early and established, as well as emergent employee applications for the internet, even if we do not know, as of yet, how universal or effective some of the newer activities actually are. In more detail, Figure 2 identifies 14 employee applications for the internet, and is reflective of applications shaped by and expected of employers, applications related to various forms of misbehaviour, applications associated with employee representation and labour as a wider political actor, and, applications as a means to challenge managerial authority.

It can be seen in Figure 2 how all employee applications for the internet, in varying degrees, are noted by a range of disadvantages. Disadvantages, as such, are quite varied in nature and include an inadequate or overly restrictive legal system that surrounds such activities, the advanced but far from perfect technologies associated with the internet, how powerful interest groups such as employers and the press media take employees to task over such activities, and, how many employees struggle to self-regulate their own time and efforts in relation to such activities. As such, the new internet represents very much a double-edged sword to employees, although it would be quite reasonable to suggest the expanded opportunities presented to employees by Web 2.0 communication technologies almost certainly represent real gains in terms of employee power, autonomy and self-organising capabilities. Furthermore, the earlier analysis not only allowed practical disadvantages for employees to emerge, it also revealed a wide range of unknowns and conceptual dilemmas to emerge too.

Future research opportunities and scholarly challenges

Based on the findings from the current research the paper concludes with a range of research suggestions and conceptual dilemmas for scholars who, inspired by this paper or otherwise, may wish to take up or attempt to solve. For such scholars, shown next, are details of scholarly challenges that have emerged from this analytical and mapping exercise:

- Employment lawyers need to work on clarifying how employees stand in terms of using new internet communication technologies to create knowledge and what is and what is not acceptable information to put on-line.
- Employee misbehaviour requires further conceptualisation in relation to the newest forms of internet communication technologies.
- Far more research needs to be conducted to clarify the role that the internet can play in trade union re-vitalisation.
- Critical researchers need to conduct more virtual ethnographic or qualitative case studies based on employee applications of new internet communication technologies, especially in relation to social networking platforms and hand-held devices with fast and efficient internet capabilities.
The literature on employee coping mechanisms needs updating to reflect the emergent coping qualities associated with internet-based technologies.

Organisational psychologists need to consider, in more detail, what it is about new internet communication technologies that make them so enthralling to knowledge workers.

Attempts should be made to assess the benefits to employees of building a reputation based around an on-line profile created on or off work time.

The list is not meant to be exhaustive and is primarily formed and presented to indicate how little we actually know about what the internet can do for the employee in an ever changing industrial relations climate.

References


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