

8-2010

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Recommended Citation

Toorn, Christine Van and Shu, Annie Yue, "Assessing the Impact of Organizational Internet and Email Monitoring Policy on Australian Employees" (2010). *AMCIS 2010 Proceedings*. 259.

<http://aisel.aisnet.org/amcis2010/259>

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Assessing the Impact of Organizational Internet and Email Monitoring Policy on Australian Employees

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ABSTRACT

Monitoring of Internet and email usage within the organisation aims to maintain workers' productivity, minimise time inefficiency and misuse of resources. Whilst moderate monitoring may control resource efficiency, excessive monitoring may lead to declines in organizational effectiveness and breaches of business ethics. This research will focus on assessing the impact of organizational Internet and email monitoring on employees' job satisfaction and productivity. Results identified that employees' perception of Internet and email usage restrictions significantly impacts their satisfaction and perceived productivity. Consequently, findings contribute to a greater understanding of the impact of monitoring thus enabling optimum monitoring to be implemented within the workplace.

Keywords

Monitoring, Monitoring policy, Surveillance, Privacy, Productivity, Job Satisfaction, Internet and email usage

INTRODUCTION

Growth in the use of the computer and the Internet has resulted in the adoption of monitoring methods that restrict employees' computer usage. Monitoring aims to maintain workers' productivity, minimize time inefficiency and misuse of resources (Sipior & Ward, 1995; Alder *et al.*, 2007). However, whilst these measures may control resource efficiency, "excessive monitoring may [also] lead to declines in organizational effectiveness and breaches of business ethics" (Lease & Gordon, 2005, p. 3). Imposed restrictions and monitoring may breach employees' privacy rights and decrease their satisfaction rate (Lease & Gordon, 2005; Nord, McCubbins & Nord, 2006).

A question therefore arises on the effectiveness of these policies and specifically, whether enforcement of these policies has an impact on workers' satisfaction or their overall productivity? Consequently, this research will focus on assessing the impact of organizational Internet and email monitoring on employees' job satisfaction and productivity.

The current research is conducted using a quantitative positivist approach by gathering empirical data from two organizations varying in the degree of monitoring for comparative analysis. Statistical analysis using SPSS and PLS were performed on the data to validate assumptions, research questions and hypotheses.

Findings of this research identified that employees' perception of Internet and email usage restriction has a major impact on their level of satisfaction and perceived productivity. Consequently, findings contribute a greater understanding to enable optimum monitoring to be implemented within the workplace and to facilitate future research in this area.

LITERATURE

The topic of electronic monitoring in the workplace has been well researched across the available body of literature. In seeking to review the effect of monitoring on the working organization and its employees, many pioneers of this area of study have travelled similar paths. The focus of the current research will be on literatures from two main disciplines: the social-

psychology and the information systems perspective. It is interesting to highlight the overlapping issues that are present from both disciplines. Whilst each area varies in their own perspective of research, there are general themes that are recurring and similar throughout the two main bodies of literature. These will be discussed in the following sections.

Productivity in the Workplace

The main justifications for monitoring are categorized as legal liability and security concerns (Lease & Gordon, 2005). The increase in employee Internet and email usage comes with a corresponding increase in the likelihood of virus attacks, identity theft, and many other security hazards (Vorvoreanu & Botan, 2000). The result of these attacks could incur severe costs to the organization in terms of lost productivity, loss of customer engagement as well as the potential leakage of confidential information (Alder et al, 2006; Sipior & Ward, 1995; Vorvoreanu, & Botan, 2000).

In addition, monitoring policies may also be implemented for productivity measurements (Bulkley & Van Alstyne, 2004). It is often argued that increase in time efficiency in the workplace as a direct result of restrictions, will provide employees with fewer distractions and allow higher concentration for the completion of their tasks (Aral, Brynjolfsson, & Van Alstyne, 2007). As Whitty (2004) noted “Some would argue that surveillance is necessary to prevent cyberslacking which can lead to loss of productivity and be a waste of a company’s resources” (Whitty, 2004, p. 42). By monitoring and establishing restrictions, employees are more likely to recognize their responsibilities within the workplace (Aral, Brynjolfsson & Van Alstyne, 2007).

Further arguments for the necessity of Internet restrictions come from the avoidance and prevention of abuse of company resources, such as “excessive usage of bandwidth” (Cooke & Kroeze, 2004, p. 168). Effective monitoring can minimize these offences occurring within the firm (Cooke & Kroeze, 2004). Minor offences can include downloading personal or leisure files such as movies or music, while major offences may include pornography and various other severe violations (Pownell & Bailey, 2001; Cooke & Kroeze, 2004).

Job Satisfaction of Employees

Past research has shown that organizational policies have an impact on a range of employee attributes. Researchers identified that organizational monitoring has a direct impact on employees’ satisfaction levels as a result of change in working conditions and behavior (Oz, Glass & Behling, 1999; Nebeker & Tatus, 1993). That is, the satisfaction level of employees decreases as working behavior, in terms of stress level, increase (Nebeker & Tatus, 1993). “High level of monitoring is identified to be one of the major attributes to the increase of stress levels” particularly when monitoring has a direct impact on performance and reward calculations (Nebeker & Tatus, 1993, p. 528). Thus, studies have demonstrated that satisfaction levels of employees can be partially attributed to the level of monitoring within the organization (Nebeker & Tatus, 1993; Chalykoff & Kochan, 1989; Vorvoreanu & Botan, 2001; Witty & Carr, 2006).

The importance of attitudes of employees affected by monitoring has also been highlighted across much of the literature. The belief-attitude-behavioral model introduced by Ajzen (1980) has demonstrated that employees attitude such as personality, individual traits, as well as environmental working factors will be affected by monitoring particularly in the way in which employees seek to find information. In turn, these observed changes in attitude will affect job satisfaction and work efficiency (Anandarajan & Simmers, 2003; Stanton & Weiss, 2000).

Importance of Privacy

It has been identified that the higher the level of monitoring and restriction of workers performance through the computer, the less privacy and freedom the workers feel whilst they carry out their tasks (Lane, 2003; Nord, McCubbins & Nord, 2006). This may pose ethical questions on the violation of workers’ personal rights. As Oz, Glass and Behling (1999) emphasize “labor leaders and civil rights advocates argue that electronic monitoring [in the workplace] violates the dignity and right to privacy of employees” (Oz, Glass & Behling, 1999, p. 167). Though justifications for implementing monitoring such as minimizing corporate theft or abuse of resources are accepted by the employees, the issue arises when monitoring is established on the performance of employees (Sipior & Ward, 1995). As a result of the variation in the perception of privacy within the organization, the resulting trust between the organization and their employees is also impacted (Alder et al, 2006; Introna, 2000).

Perceived Usefulness of Monitoring

Perceived usefulness is defined as the effectiveness of the monitoring policies, as perceived by the employee. Monitoring policies are ineffective if employees refuse to accept the monitoring and align their behaviors in the workplace accordingly

(Pownell & Bailey, 1999; Anandarajan & Simmers, 2003). Hence, efficiency in time will not be obtained via the placement of policies that are deemed unsupportive (Whitty, 2004). It is recommended that the relevance of the monitoring should be identified in order for the success of the implementation of policy (Pownell & Bailey, 1999; Wang, 2007).

It is further believed that constant self monitoring of the employee can lead to positive effects on the performance of the individual (Stanton & Weiss, 2000). Mehra, Kilduff and Brass devised several models which show the relationship between monitoring and performance levels to produce correlations with the interaction of their current position within the organizational structure (Mehra, Kilduff & Brass, 2001). Interaction between the level of monitoring is affected by their positional role and self control, hence outlining that monitoring can lead to an impact on performance measured for both the organization as well as the individual (Mehra, Kilduff & Brass, 2001). Additionally, evidence has shown that workers' attitudes are consistent and will not necessarily change with the introduction of monitoring or other systems (Anandarajan & Simmers, 2003). Even if high restrictions are implemented in the workplace, employees may still become inefficient through various methods such as taking coffee or cigarette breaks, and extensive socializing during work hours (Anandarajan & Simmers, 2003; Pownell & Bailey, 2001). Interestingly, Oz, Glass and Behling (1999) found that females are more accepting of electronic monitoring in the workplace compared to males (Oz, Glass & Behling, 1999; Alder *et al*, 2006). The results identified that females "believe monitoring would reduce theft and embezzlement" within the organization, leading to a safer working environment (Oz, Glass & Behling, 1999, p167).

Flexibility

From an organizational perspective, necessity of flexibility in the policy will explain the level of control enforced by the organization and will also effectively impact on the level of availability and distribution of the policy across the workplace. Consequential awareness of the policy will reflect the perceived importance of the policy attributed by the organization. Generally, employees are responsible for completing tasks assigned to them, there are currently no arguments in the literature to infer that flexibility will cause a decrease in productivity, as workers may be able to complete required work without decreasing their rate of efficiency (Florit & Lladosa, 2007; Sipior & Ward, 1995). The result of increased flexibility on monitoring may be beneficial as employees have a more relaxed and comfortable outlook, increasing their satisfaction of work (Hollway, 2001; Florit & Lladosa, 2007).

Monitoring has also been found to border on issues of censorship and infringements; there is general consensus on the individual's ownership to the right of public information (Whitty & Carr, 2006). The restriction to search for valuable work information may jeopardize this (Pownell & Bailey, 2001; Ciocchetti, 2001). Hence, it is argued that employees should be able to have some freedom in the way they behave and use technologies (Whitty & Carr, 2006).

Awareness of Monitoring Policy

From the literature, it is advised that the levels of organizational control on monitoring are dependent on the maturity of the organization (Duane & Finnegan, 2008). Moreover, it has been shown that those who are aware that a monitoring system is in place are more likely to be task focused in approaching their role. In turn, this may help to achieve efficiency yet result in lower satisfaction levels (Urbaczewski & Jessup, 2002; Introna, 2000), thus furthering the argument that monitoring presents the "trade-off between productivity and satisfaction" (Urbaczewski & Jessup, 2002, p.82).

Rationale behind Current Study

Intuitively, it is argued that organizational policy is developed to have a positive impact on employee behavior in relation to satisfaction and productivity (Vorvoreanu & Botan, 2001). However, as monitoring increases within the organization, the restriction results in a decrease in usage for employees. The current research aims to determine if the perceptions of restrictions on the use of the Internet and email will have any negative impact on the resultant perceived job satisfaction and personal productivity. From the literature, it can be seen that restrictions to the use of Internet and email facilities have an effect on both job satisfaction and personal productivity. The primary research question which is addressed is:

Does limited Internet and email usage in the workplace affect Perceived Personal Productivity and Job Satisfaction?

In answering the above question, the following subquestion will be considered:

In what ways does limited Internet and email usage in the workplace affect Perceived Personal Productivity and Job Satisfaction?

Note that the research question will focus on Internet restrictions and email monitoring. The scope of the current study will be restricted to Internet filtration and monitoring systems implemented in the workplace as well as the monitoring of workplace emailing devices such as scanning of all incoming and outgoing emails (Whitty, 2004). The purpose of this restriction is to focus on these specific aspects as they are the primary monitoring methods used by corporations (Lease & Gordon, 2005).

RESEARCH MODEL

Key variables to be measured are shown in the diagram below. From the literature, it was identified that there were four dimensions on the perception of limited Internet and email usage. The research model illustrated in Figure 1 will focus on these four dimensions as the main independent variables. These independent variables will then be assessed in relation to the dependant variables - perceived productivity and job satisfaction.

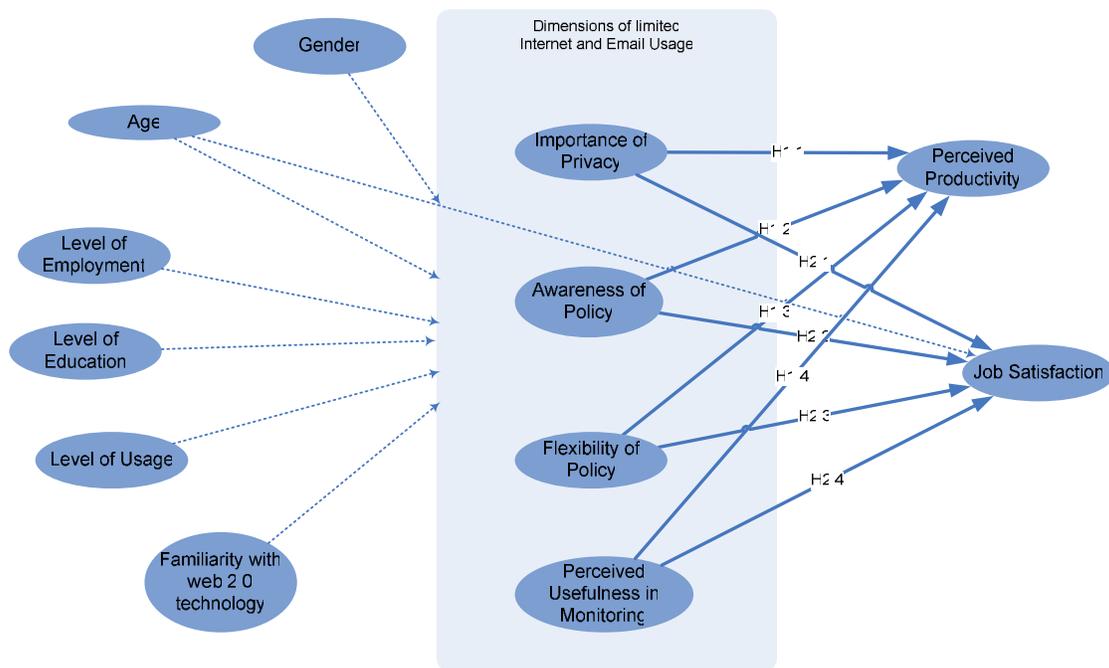


Figure 1: Research Model

METHODOLOGY

The study was undertaken in two organizations. Organization 1 is one of Australian’s largest Insurance and Reinsurance Groups founded in 1882. The current structure of the organization includes, an estimated 13,000 employees located throughout 50 offices around Australia. Employees of the Operations Division participated in the study. Organization 2 is a highly recognized Australian Banking Corporation and one of the strongest within the industry, founded in 1817. Nationally, there are 1,200 offices and 40,000 employees. Employees from the Enterprise Infrastructure Operations group participated in the study. The selection of two large organizations of similar service functions facilitates a comparative analysis and assists reliability by confining the major differences in the level of monitoring and restrictions in place.

The survey instrument operationalized the research model as follows:

- Demographics
- Current Usage: a 5-item scale on current usage was applied to determine the necessity and degree of limited Internet and email access across each of the participating organizations (Hollway, 2001).

- Importance of Privacy: A privacy scale was developed from Alder *et al* (2007) which adapted Chalykoff and Kochan’s (1989) privacy scale.
- Awareness of Policy: Questions on awareness were adapted from Duane & Finnegan (2008).
- Perceived Usefulness of Monitoring: The perceived usefulness scale was developed from Alder *et al*’s (2007) adaptation of Chalykoff and Kochan’s (1989) original 3-item scale measuring monitoring usefulness.
- Necessity of Flexibility in Policy: The flexibility scale was formed from the 5-item scale in Oz, Glass & Behling (1998) where measures were taken on the importance of flexibility required by the employees.
- Perceived Productivity: It was noted that there was a lack of validated productivity measure in the literature. The productivity scale was taken from Shikiar *et al* (2004). Shikiar focused on measurements in relation to two sub-scales, self viewed productivity and third party perception of productivity. The scales relating to third party perception were discarded as the current study focuses on employee’s own perceptions of their productivity. In addition, four questions developed by Jackson *et al*, 2003 and validated by Kuo, 2008 in relation to concentration were included.
- Job Satisfaction: Job Satisfaction scale was formed from the 5-item scale of Brayfield and Rothe (1951) overall job satisfaction which measured employees’ satisfaction to current role, job values and work. Four items from the 8-item Eisenberger *et al*.’s (1986) perceived organizational trust scale were included to assess employee’s satisfaction to the organization.

Table 1 outlines the Internet Usage policy in the two organizations. Organization 1 is categorized “High Monitoring” while organization 2 is “Low Monitoring”.

Table 1: Internet Monitoring Polices of the two organizations

Organization 1 – Acceptable Use of IT Facilities Policy (<i>High Monitoring</i>)	Organization 2 – Technology Code of Use (<i>Low Monitoring</i>)
Email Blocking	
Block or prevent access to Internet websites including: <ul style="list-style-type: none"> • 3rd party email services (e.g. Hotmail) 	<ul style="list-style-type: none"> • Employees are not restricted in using their personal email facilities (such as Gmail and Hotmail) • All incoming and outgoing email attachment automatically checked for virus.
Internet Blocking	
<ul style="list-style-type: none"> • Site demanding high bandwidth (e.g. domain.com.au, YouTube) • Site which result in interference with organizational facilities • Sites obscene, inappropriate (e.g. pornography) • Sites that interfere with employee performance (e.g. Instant Messaging, Social Networking sites) • Any other site considered inappropriate or unnecessary. 	<ul style="list-style-type: none"> • Note: Emerging technologies (Facebook, LinkedIn, Twitter, MySpace, YouTube) can assist in communication when used appropriately and therefore NOT blocked • Note: Instant Messaging applications NOT blocked. • Note: Web 2.0 technologies such as video sharing applications, Web log sites, online actioning sites such as eBay NOT blocked
Monitoring of Internet and Emails	
<ul style="list-style-type: none"> • Restrictions apply to non-business use 	<ul style="list-style-type: none"> • Block spam and inappropriate email

<ul style="list-style-type: none"> • Monitoring of traffic and usage • Disciplinary action for forbidden uses. • Note: Monitors all email, non critical emails are delivered through non business hours. • Organization actively updates blockings of Internet content that it considers inappropriate or poses risk to security of Organization. 	<p>attachments.</p>
Prohibited Use	
<ul style="list-style-type: none"> • Sending or receiving large email messages or significant volumes of email messages not related to business • Sending message or attachments inappropriate in workplace • Sending information non authorized material • Sending information confidential information about customers • Obtaining and sending non-business related files • Disclosing contents of incorrectly addressed mail • Spending excessive work time accessing non-business related Internet sites • Visiting sites containing inappropriate material or reduce work performance • Unauthorized access to another person's email or Internet login • Submit sensitive information on Internet or intranet sites • Send copies of documents violation of copyright • Uploading or downloading in violation of copyright law • Inappropriate material on facilities. • Disable security or anti-virus systems • Setting mail automatically forward email to external address • Prohibit accessing or promoting gaming, wagering, betting sites or online gambling 	<ul style="list-style-type: none"> • Attempting access, distributing storing sexually explicit, pornographic or offensive material • Accessing, distributing or storing material that constitutes harassment, sexual harassment, hatred or discrimination • Writing on a website about Organization commercial intelligence such as new products in development without appropriate approval
Monitoring Use of Technology	
<ul style="list-style-type: none"> • Ongoing basis monitoring employees' usage including data, emails, files and cache files. 	
Access Logs	
<ul style="list-style-type: none"> • Conducts surveillance on use of computer and IT facilities and hardware. All system and application logged. Activity on system are traced to individual logon ID • For individual message, details of 	<ul style="list-style-type: none"> • Log files reviewed periodically and details websites visited, actions performed, files downloaded, time spent on Internet.

<p>sender, receiver and date retained in addition to content</p> <ul style="list-style-type: none"> • System logs all websites visited, including date, time and duration. • All files in the system and network inspected • System admin routinely access email and Internet logs • May view email messages and attachments including deleted files and log of Internet activity 	
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A pilot study was undertaken, revisions were made based on feedback and preliminary analysis including exploratory factor analysis. The main study was conducted as an online survey over a period of 25 days. All employees within the divisions were emailed the survey link. Participation in the study was optional. In addition, the survey link was notified to the employees in the division weekly newsletter as well as being announced during Group team meetings. All respondents were required to provide consent prior to commencing the survey. 139 usable responses were received from organization 1 and 84 from organization 2. The data was analyzed using SPSS and Partial Least Squares.

RESULTS

In terms of descriptive statistics, the mean age for organization 1 was 36, organization 2, 37. Gender male: 66%, female 34% for organization 1; organization 2 male 63% and 37% female. Tenure 5.7 years for organization 1; 6.29 for organization 2. Overall experience 13 years for organization 1; 13.5 years for organization 2. Personal Internet usage 87% for organization 1 and 91% for organization 2. Personal email usage 73% for organization 1 and 82% for organization 2. Analysis of variance reported no significant differences for the control variables of the two groups.

In terms of the independent variables analysis of variance indicated differences between the two groups. The Organization with the lower level of monitoring (organization 2) was found to have a significantly higher level of Perceived Usefulness of the monitoring as well as a higher importance on the necessity of flexibility of the policy. Employees in the Organization with the higher monitoring (Organization 1) have an overall increased average awareness of their policies. There was no significant difference between the perceived importance in privacy across the two organizations.

For the dependent variables, the MANOVA test of between-subjects effects showed a significant difference between the two organizations for both Perceived Productivity and Job Satisfaction. Organization 1 obtained a significant value of 0.026 while Organization 2 obtained value of 0.035, this was not unexpected and validated the view that the resultant dependent variable perceptions would vary between the organizations. Figures 2 and 3 illustrate results.

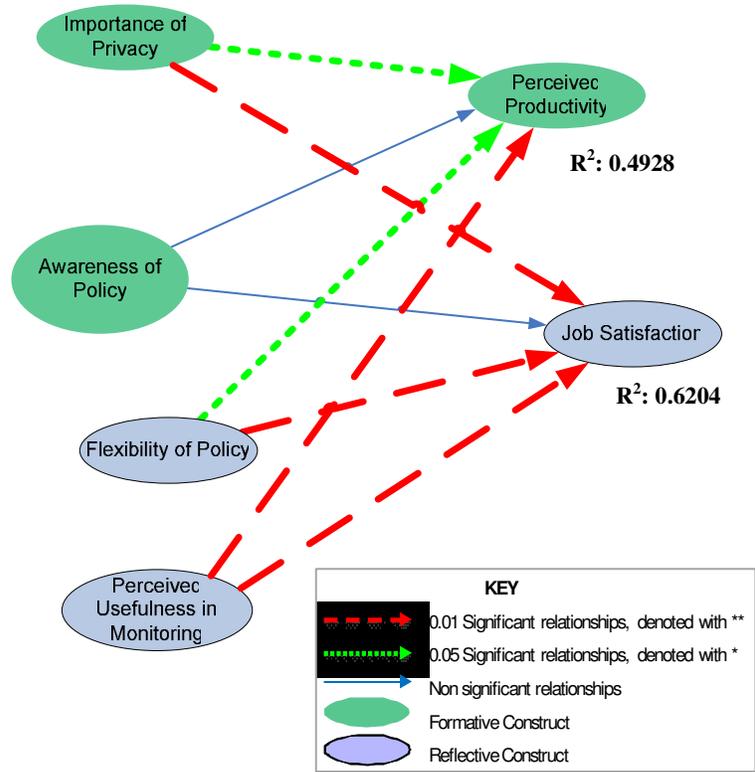


Figure 2: Summary of Impacting Factors (Organization 1)

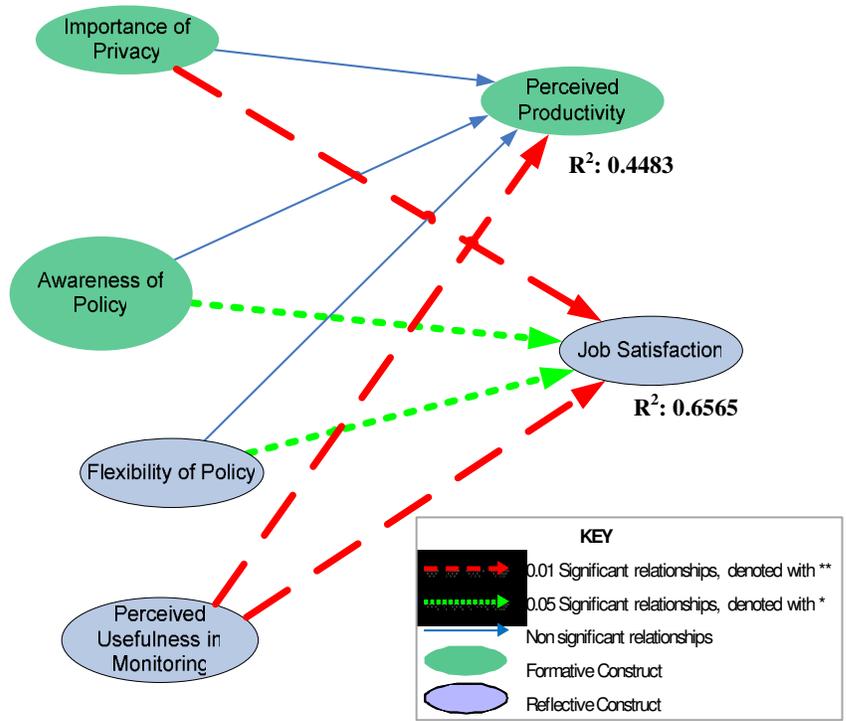


Figure 3: Summary of Impacting Factors (Organization 2)

Does limited Internet and email usage in the workplace affect Perceived Personal Productivity and Job Satisfaction?

High Monitoring (Organization 1)

Results from Organization 1 illustrated that limited Internet and email usage does have an effect on both perceived *Personal Productivity* and *Job Satisfaction*. The limited usage explained 49% of the variability in *Perceived Productivity* and 62% in *Job Satisfaction*.

Analysis of the significant path coefficient shows that *Importance of Privacy*, *Flexibility of Policy* and *Perceived Usefulness* in monitoring have an effect on the dependent variables. Both *Importance of Privacy* and *Flexibility of Policy* have a higher significance in explaining job satisfaction than productivity. Contrary to the literature, it was found that awareness of the policy does not affect either of the resultant factors.

Low Monitoring (Organization 2)

Results from Organization 2 illustrated that limited Internet and email usage also have an effect on both *Perceived Productivity* and *Job Satisfaction* within a low monitored environment. The limited usage explained 44% of the variability in *Perceived Productivity* and 65% in *Job Satisfaction*.

A comparison between the two organizations showed that *Perceived Productivity* can be better explained by the constructs of limited usage within a high monitored environment whilst a lower monitored environment was able to explain the effect of limited usage to *Job Satisfaction*. Specifically, by comparing each of the dimensions of limited usage, it was found that *Perceived Usefulness* of the monitoring within the organization was a consistent factor contributing strongly to both *Perceived Productivity* and *Job Satisfaction* regardless of monitoring in place.

In what ways does limited access to Internet and email usages have an impact on employee's Perceived Personal Productivity and Job Satisfaction?

Through the comparison between the levels of monitoring across the organizations, it can be seen that similar results were obtained. *Importance of Privacy* has negative correlation with *Job Satisfaction* regardless of the level of monitoring within the organization. It is interesting to note that in a high monitoring environment, increased *Importance of Privacy* results in a decrease in *productivity*, whilst in a low monitored environment, an increased *Importance of Privacy* results in a positive relationship with *Perceived Productivity*.

A comparison of employees *Awareness of Policy* across the two organizations showed interesting results. Awareness had a non-significant relationship with *Perceived Productivity* for both organizations. It is interesting to highlight that *Awareness of Policy* was positively correlated to the level of satisfaction within a low monitored environment and a negative relationship in a high monitored environment. This confirms that different levels of monitoring within the organization have a high impact on the employees overall satisfaction rate (Urbaczewski & Jessup, 2002).

Through the comparison between two monitoring levels within the organization, it can be seen that there is a significant difference of employees resulting perceptions. *Flexibility of Policy* was found to be positivity related to *Perceived Productivity*. This implies that employees believe that wider access to Internet and email usage can benefit their overall levels of productivity. Contrastingly, whilst a positive correlation was observed between flexibility and satisfaction in the high monitored environment, a significant negative correlation was observed in the low monitored environment. This is a significant finding as it highlights the fact that overall *Job Satisfaction* actually decreases if an organization increases flexibility in an already low monitored workplace.

Perceived Usefulness is consistent between the two monitoring environments. It has a strong relationship with both *Perceived Productivity* and *Job Satisfaction*. Results showed that, as employees' perception of usefulness of monitoring increases, a resultant increase in both *productivity* and *Job Satisfaction* will be observed.

DISCUSSION AND CONCLUSION

It can be seen that limited Internet and email usage from both a high and low level monitoring environment affects *personal productivity* and *job satisfaction*. Specifically, limited Internet and email usage can explain employees *perceived productivity*

better in a higher monitored environment. This result is consistent with findings from literature since productivity is a key motivator behind the implementation of monitoring (Lease and Gordon, 2005). Therefore, it is expected that the higher the monitoring within the organization, the stronger the effect this will have on resultant productivity.

Contrastingly, greater *job satisfaction* can be explained by the organization with the lower monitored environment. From the literature, *job satisfaction* is often used supporting the argument against monitoring within the organization (Stanton & Weiss, 2000), as Anandarajan & Simmers explained, (2003) a high level of monitoring may well decrease the overall level of satisfaction of the employees. Hence, results confirmed that monitored usage attributed to a moderately higher level of job satisfaction from an organization with a lower monitored environment.

Importance of Privacy negatively correlates to productivity in a high monitored environment, while a positive correlation is observed for a low monitored environment. The result confirmed that if employees have high perception of their privacy, they would attribute the highly leveled monitoring to be a violation of their right and thus leading to a decrease in their overall productivity rate. This confirms Alder's results that "employees are likely to hold beliefs about policy's invasiveness as invasion of privacy is still an issue to most people" (Alder et al, 2007, p. 485). However, within a low monitored environment, employee would not attribute monitoring to violation of their privacy and hence a positive impact is observed. Furthermore, *Importance of Privacy* negatively affects *Job Satisfaction*. This result is obtained regardless of the level of monitoring imposed by the organization. It is understandable and explained in the literature that if an employee believes their privacy is being violated, their resulting satisfaction would decrease (Alder et al, 2007).

Satisfaction is greatly affected by *Awareness of Policy* within a low monitored environment. If employees take the initiative for the awareness of the policy, it would result in a strong positive impact on employees within a low monitored environment only. Contrastingly, *Awareness of Policy* is negatively correlated with satisfaction in high monitored environment, this relationship however is not significant.

The current research demonstrates that organizations need to take extreme care when developing monitoring policies and procedures as *Perceived Usefulness* of the monitoring set out in the policy greatly affects employees' satisfaction and productivity regardless of the monitoring environment they are in. Organizations need to also ensure that the privacy rights of employees are not violated as this will cause a negatively impact on satisfaction and employees productivity. This relationship becomes highly evident in an organization with high monitoring (Rodriguez, 1998).

In addition, *flexibility of the policy* is required. If the monitoring within an organization reaches too high, satisfaction may decrease if employees' desire for flexibility is not met. However, if the current monitoring is too low, employers would not desire for further flexibility as satisfaction level observed will also decrease. Thus a policy allowing some flexibility is optimally perceived by the employee (Cooke & Kroeze, 2004).

Consequently, the literature recommended that a medium level of monitoring and restriction within the organization achieves maximum benefits in the workplace (Introna, 2000; Ciochetti, 2001; Alder et al, 2007). It will neither intrude on an employee's personal space nor allow worker productivity and satisfaction to decrease (Ciochetti, 2001; Alder et al, 2007). The current study confirms that high levels of monitoring may cause negative impacts to satisfaction and productivity of employees. At the same time, a low level of monitoring would neither be desirable as shown by the decrease in satisfaction as flexibility increases in the low monitored environment. A moderate leveled monitoring suited for the organizational environment would thus create the optimal work performance and satisfactions.

References and Citations

1. Alder, G. S., Noel, T. W., & Ambrose, M. L., 2006, 'Clarifying the effects of Internet monitoring on job attitudes: The mediating role of employee trust', *Information and Management*, Vol 43, 894 – 903.
2. Alder, G.S., Schminke, M., Noel, T. W., & Kuenzi, M., 2007, 'Employee Reactions to Internet Monitoring: The Moderating Role of Ethical Orientation' *Journal of Business Ethics*, Vol 20, 481 – 498.
3. Ajzen I., Fishbein M., 1980. 'Understanding attitudes and predicting social behavior', Prentice-Hall.
4. Anandarajan, M. & Simmers, C., 2003, 'Personal Web Usage in the Workplace – Impact of Personal Internet Usage on Employee's Well-Bring', Hershey, PA: Idea Group Publishing, 168 – 185.

5. Aral, S., Brynjolfsson, E. & Van Alstyne, M., 2007, Information, Technology and Information Worker Productivity: Task Level Evidence. *Proceedings of the 27th Annual International Conference on Information Systems*.
6. Brayfield, A. H., & Rothe, H. F., 1951, 'An index of job satisfaction', *Journal of applied Psychology*, Vol.35, 307 – 311.
7. Bulkley, N. & Van Alstyne, M. W., 2004, 'Why Information Should Influence Productivity'. *Ann Arbor*, 1001, 48109-41092.
8. Chalykoff, J., & Kochan, T. A., 1989, 'Computer-aided monitoring: its influences on employee job satisfaction and turnover', *Personnel Psychology*, Vol. 42, 807 – 834.
9. Ciocchetti, C. A., 2001, 'Monitoring employee e-mail: Efficient workplaces vs. employee privacy, 2001, Duke Law & Technology Review', 26. Retrieved November 2, 2004 from <http://www.law.duke.edu/journals/dltr/articles /2001/dltr0026.html>
10. Cooke, P. & Kroeze, J. H., 2004, 'The impact of the Internet on organizational culture within the IT industry', *ACM International Conference Proceeding Series*, Vol. 75, 166 – 175.
11. Duane, A. & Finnegan, P., 2008, 'Managing Email Resources: An Exploration of Electronic Monitoring and Control in Practice'. *Best Practices and Conceptual Innovations in Information Resources Management: Utilizing Technologies to Enable Global Progression*, Information Science Reference.
12. Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D., 1986, 'Perceived Organizational Support', *Journal of Applied Psychology*, Vol. 71, 500 – 507.
13. Florit, E. F. & Vila Lladosa, L. E., 2007, 'Evaluation of the Effects of Education on Job Satisfaction: Independent Single-Equation vs. Structural Equation Models', *International Atlantic Economic Society*, Vol 13, 157 – 170.
14. Hollway, W., 2001, *Work Psychology and Organizational Behaviour*, SAGE Publication, USA, 208-209.
15. Introna, L. D., 2000, 'Workplace Surveillance, Privacy and Distributive Justice' *Computers and Society*, Vol 30, 4, 33 – 39.
16. Jackson, T., Dawson, R. & Wilson, D. 2003, Understanding email interaction increases organizational productivity. *Communications of the ACM*, 46, 80-84.
17. Kuo, P., 2008, 'Email Addiction in the Workplace: An Exploratory Study', BSc, Thesis, University of New South Wales.
18. Lane, F.S., 2003, 'The naked employee: How technology is compromising workplace privacy.' New York: Amacom, American Management Association. 288-290.
19. Lease, D. & Gordon, J., 2005, 'Balancing Productivity and Privacy: Electronic Monitoring of Employees', *Management and Business Review*, Retrieved 6 November 2008 from drdavidlease.com/user/Employee%20Monitoring.pdf.

20. Mehra, A., Kilduff, M., & Brass, D. J., 2001, 'The Social Networks of High and Low Self-Monitors: Implications for Workplace Performance', *Administrative Science Quarterly*, Vol 46, 1, 121 – 146.
21. Nebeker, D. M., & Tatum, B. C., 1993, 'The Effects of Computer Monitoring, Standards, and Rewards on Work Performance, Job Satisfaction and Stress', *Journal of Applied Social Psychology*, Vol 23, 7, 508 – 536.
22. Nord, G. D., McCubbins, T. F., & Nord J. H., 2006, 'E-Monitoring in the Workplace: Privacy, Legislation, and Surveillance software: Protecting the corporation while respecting employee privacy – an old puzzle made more complex with new software' *Communications of the ACM*, Vol 49, 8, 73 – 77.
23. Oz, E., Glass, R., & Behling, R., 1999, 'Electronic workplace monitoring: what employees think', OMEGA, *The International Journal of Management Science*, Vol 27, 2, 167 – 177.
24. Pownell, D., & Bailey, G. D., 1999, 'Electronic Fences or Free-Range Students: Should Schools Use Internet Filtering Software?', *Learning and Leading with Technology*.
25. PLS Graph, 1993, Version 3.00, Build 1126, computer program, Soft Modelling Inc, USA.
26. Shikiar, R., Halpern, M. T., Rentz, A. M. & Khan, Z. M. (2004) Development of the Health and Work Questionnaire (HWQ): an instrument for assessing workplace productivity in relation to worker health. *Work*, 22, 219-229.
27. Sipior, J. C., & Ward, B. T., 1995, 'The Ethical and Legal Quandary of Email Privacy: E-mail isn't as private as you may think', *Communications of the ACM*, Vol 38, 12.
28. SPSS Statistics, 2008, Version 17, Release 17.0.0, computer program, Polar Engineering and Consulting, USA.
29. Stanton, J. M., & Weiss, E. M., 2000, 'Electronic monitoring in their own words: an exploratory study of employees' experiences with new types of surveillance', *Computers in Human Behaviour*, Vol 16, 423 – 440.
30. Urbaczewski, A., & Jessup, L. M., 2002, 'Does Electronic Monitoring of Employee Internet Usage Work?' *Communications of the ACM*, Vol 45, 1, 80 – 83.
31. Vorvoreanu, M., & Botan, C. H., 2000, 'Examining Electronic Surveillance in the Workplace: A Review of Theoretical Perspectives and Research Findings', *Conference of the International Communication Association*, Acapulco, Mexico, 1 – 28.
32. Wang, Y. S., 2007, 'Assessing e-commerce systems success: a respecification and validation of the DeLone and McLean model of IS success', *Information Systems Journal*, Vol. 18, 5, 529 – 557.
33. Whitty, M. T., 2004, 'Should Filtering Software be utilised in the Workplace? Australian Employees' Attitudes towards Internet usage and Surveillance of the Internet in the Workplace.' *Surveillance & Society*, Vol 2, 1, 39 – 54.
34. Whitty, M. T., & Carr, A. N., 2006, 'New rules in the workplace: Applying object-relations theory to explain problem Internet and email behavior in the workplace', *Computers in Human Behaviour*, Vol 22, 2, 235 – 250.