

EVALUATING EMPLOYEES' CONCERNS AND PERCEIVED IMPACT OF EMPLOYEE MONITORING ON PRIVACY

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Abstracts

In this research we address the tension between evaluative employee monitoring and the privacy concerns that explosion of modern information technology has brought to the workplace. The analysis of employees' privacy concerns, and the review of some the available publication, indicates that in the workplace, more aspects of employees' lives are made visible to managers through the deployment of many electronic tools and device to capture employees' keystroke, email communications and other computer related activities. It is found that excessive monitoring could have negative consequences on employees including increased stress, increased resistance, decreased job satisfaction, decreased organizational commitment, which could result in an increased turnover tendency.

Keywords: Employee monitoring, Privacy Concerns, legal perspective, perceived impact

Introduction

Information Technology and electronic devices, made it possible for employers to monitor the activities of their employees while at work. Employee monitoring and surveillance have been used by organization for some time, and the technological advances helped employee monitoring to emerge as a necessity. Meanwhile, employee monitoring became very controversial issue as it became more widespread and potentially more unpleasant. In results, it is pushing the boundaries of acceptability and posing new challenges for both employers and employees. The potential benefits which entail from such monitoring and surveillance are always offset by risks that may affect the employees' privacy and the protection of their data. An important concern is that digitally enabled surveillance technologies can provide a wider range of information than initially intended, enabling data collected for a specific purpose to be used for another. In this research paper, we will analyze the impact of privacy concerns of employee monitoring and employees' attitudes towards being monitored and put under surveillance while being at the workplace. The study aims to measure employee' awareness and opinions about privacy, as well as their expectations in relation to the handling of their collected personal information.

Employee Monitoring: Benefits and Privacy Concerns

The expansion of technology has introduced different options of employee monitoring practices. Employee monitoring refers to keeping an eye on the employees Information Technology and electronic devices so that their activities can be watched. Monitoring tools are installed and used through IT systems. Such monitoring and surveillance software used to record computer activities like keystrokes, browsing histories, file downloads, and email exchanges (Mateescu and Nguyen, 2019). So, employee monitoring tools are used to monitor employee computer activity and tracks all activity performed by an employee like apps being executed, websites being visited, emails being sent, or any other network activities. The advancement in technology makes it possible for the employers to monitor the activities of their employees continuously and secretly (Samaranayake and Gamage, 2012). In fact, employee monitoring turned out to be a growing practice, where companies are using automated tools to track work and employee performance, measure productivity, track attendance, and evaluate employee's behavior. And some organizations express the needs to shift their focus from "fixed task-centric attitude" to an inclusive understanding on addressing the factors that influences employee performance (Fried et al., 2008). SoftActivity (2021), suggests that many companies decided to install tracking methods on workers' computers because these companies are finding that their data is increasingly susceptible to targeted, malicious attacks. Different monitoring tools are used by different organizations, where different monitoring tools provide a range of capabilities and the type of data being collected. Current electronic means of surveillance allows a supervisor to watch employees, even when not physically present, because all actions and movements of the employees can be recorded and analyzed in the future, or even in real time (Manokha, 2020). From a legal perspective, collecting this data may be used by the employer for all the many different reasons, results in variation of the monitoring and disciplinary prerogative, but as a result, this type of monitoring has an impact on freedom, privacy, as well as the autonomy and moral reasoning, which is much more relevant in a society (Aloisi and Gramano, 2020).

In the year 2001, the worldwide estimate of 27 million workers under computer monitoring (Schulman,2001), For many businesses, employee monitoring is the logical solution to overcoming the challenges of preserving the integrity and quality of products and services, so they can overcome these challenges by implementing a monitoring strategy (Smith and Tabak 2017). Armstrong and Baron (2010,) suggested that monitoring employees' capability and productivity can contribute to the effective management in achieving high levels of organizational performance, where employee monitoring means consistently measuring performance and providing ongoing feedback to employees and work groups on their progress toward reaching their goals OPM (2017). Other researchers suggest that more monitoring, a business could detect and perhaps prevent a computer network vulnerability originated accidentally by employee e-mail, or help catch workers who may be leaking business' secrets or designs to a competitor (Oprea, 2012). Other researchers indicated that some organizations seek to monitor the work environment and promote efficient spread of knowledge (Keh-Luh & Chiu-Mei, 2012), but since IT can produce in depth of knowledge

creation, organizations have to focus more on a variety of IT tools in order to store knowledge (Saleh, 2010).

While there are valid reasons that inference the decision to monitor employees, employee monitoring does present its fair share of concerns for the business and the staff, where employees may have privacy concerns (SoftActivity, 2021), and some studies find that constant tracking and close monitoring results in feelings of anxiety and tension (Lee et al. 2015; Möhlmann and Zalmanson 2017). It is found that excessive monitoring could have negative consequences on employees including increased stress, increased resistance, decreased job satisfaction, decreased organizational commitment, which could result in an increased turnover tendency (Kirstie, 2021). The fact is, employee monitoring has raised concerns by lawyers, privacy advocates, and civil libertarians (Martin & Freeman, 2003). Lawyers generally advise that one way for businesses to avoid liability for monitoring employees' online activities is to take all necessary steps to eliminate any reasonable expectation of privacy that employees may have concerning their use of company email and other communications systems. The Stored Communications Act (SCA) regulates access to and disclosure of stored communications, which regulates two types of entities: electronic communication services, which allow sending and receiving of emails, and remote computing services, which provide computer storage and processing (Huth, 2013).

The Research Hypotheses

To investigate Impact Using Information Technology for Monitor employees, Five hypotheses were developed as shown next:

H01: Employees have privacy concerns when being monitored

H02: Employee Monitoring has a negative impact on Productivity

H03: Employee Monitoring Provides Increased Internal Security and Protection from Harassment

H04: Employee Monitoring helps enforce acceptable use policies

H05: The perceived risks have a positive impact on employs attitudes towards employee monitoring.

Research Method

The key intention of this study is to investigate the issues and concerns involved when observing employees in a work environment. A survey instrument in the form of questionnaire was developed. The questions were constructed in the questionnaire based on the objectives of the research. Convenience sampling method was used. According to Qualtrics (2022), it is sampling types that involves the sample of accessible subjects that are available to participate in the research study, who have knowledge about employee monitoring, and are willing to participate. There are two reasons of using this sampling type. First, it provides means for easily obtaining the raw data for the further analysis. Second, only contacting participants with knowledge about employee monitoring would insure that the collected data is based on practical knowledge and not based on the opinions of the participants. However, the respondents were randomly selected within the different business organizations in the United States. The Scale items of the instrument are shown in Table 1.

Table 1: Scale items of the survey instrument

Variable	Scale item Statements
Monitoring Privacy Concerns	<p>I believe that there is no reasonable expectation of privacy for an employee using a company device or resources</p> <p>I believe that my company is in compliant with workplace privacy laws and regulations</p> <p>I believe that my company implements reasonable security measures to protect employee data from misuse and unauthorized access.</p> <p>I believe that when being monitored, data is only collected and used for specific and legitimate business purposes</p>
Monitoring Productivity Impact	<p>I believe that employees increased their productivity if they knew their superiors are watching them.</p> <p>I believe that Employee Monitoring are causing business to spend more than they should to protect their interest</p> <p>I believe that Monitoring Employees helps management learn more about their employees' strengths and weaknesses for work assignment</p>
Monitoring Perceived effect on Security	<p>I believe that employee monitoring can have positive impacts on cybersecurity and help protect me</p> <p>I believe that employee monitoring can help spot suspicious or malicious behavior from internal and external sources.</p> <p>I believe that employee monitoring can enforce compliance of data and information protection</p>
Acceptable Use Policies Enforcement	<p>I believe that monitoring employees can discouraging accessing the internet for personal use while working</p> <p>I believe that monitoring employees can improve bandwidth efficiency by identifying unnecessary bandwidth use in an unfair or selfish way</p> <p>I believe that monitoring employees can ensure that employees aren't excessively browsing websites even for business related reasons</p>
Employs Attitudes Towards Monitoring	<p>I believe that with employee monitoring the collected information may be misused</p> <p>I believe that with employee monitoring the collected information might be passed on without my knowledge</p> <p>I believe that employee monitoring can help provide safety/security/ protection from intrusion to my sensitive information.</p> <p>I believe that employee monitoring is unnecessary to the business.</p> <p>I believe that with employee monitoring there are risks to intrude on workers' rights to privacy</p> <p>I believe that employee monitoring can reduce work autonomy and trust in management,</p> <p>I believe that employee monitoring can damaging staff motivation and employment relations</p>

Pilot Test

Pilot testing took place in two stages. The first stage consisted of developing and testing the terms used in the instrument as well as the instructions of how to use the instrument and asking participants to complete the survey. The second and final stage was to test the reliability of the instrument.

Stage 1 of the pilot test

A group of 3 professionals were asked to review the wording to ensure clarity. This review resulted in minor wording changes. After the changes were made, the instrument was presented to a group of employees. Informal interviews were held with three of the participants; one of them was a manager. Participants identified problems with the format of the instrument items and their associated scales. For example, using a scale from one to five and only identifying “1” as “Extremely Disagree” and “5” as “Extremely Agree” (and providing numbers only for 2, 3, and 4) was not clear enough to some of the participants. Based on these comments, the instrument format was changed, so that number 2 through 4 were also paired with text as indicated below:

(1) Extremely Disagree (2) Disagree (3) Fairly Agree (4) Agree (5) Extremely Agree

Stage 2 of the pilot test

To test the internal consistency and reliability, the pilot test included a stage to calculate the internal consistency reliability coefficient. The 20 items of the instrument have been tested thoroughly as shown in table 2.

Table 2: Reliability Analysis

Variable	Corresponding Values
Total Number of Items	20
Number of Cases	30
Confidence Interval	95%
Correlation between forms	0.7534
Guttman Split-half	0.8274
Spearman-Brown Equal-length	0.8585
Spearman-Brown Unqual-length	0.8561

The instrument's constructs Cronbach's alpha reliability coefficients was also calculated. The calculations were done in several steps. The first step was calculating the Cronbach's alpha for the instrument. The results are illustrated in Table 3. The fourth and final step was calculating the Cronbach's alpha reliability coefficients for each independent variable of the instrument. The Cronbach's alpha reliability coefficient calculation shows that all constructs maintain internal consistency reliability. It is found that all scales were above 0.80 as shown in Table 3)

Table 3: Instrument's Constructs Cronbach Alpha Reliability coefficients at 95% Level

Variables	Number of items	Number of cases	P value	Cronbach's alpha
Monitoring Privacy Concerns	4	30	<0.001	0.8409
Monitoring Productivity Impact	3	30	<0.001	0.9342
Monitoring Perceived effect on Security	3	30	<0.001	0.8616
Acceptable Use Policies Enforcement	3	30	<0.001	0.9225
Employs Attitudes Towards Monitoring	7	30	<0.001	0.8648

In multiple regression results, a value R of 1 indicates that the dependent variable can be perfectly predicted from the independent variables. A value close to 0 indicates that the independent variables are not linearly related to the dependent variable. The R^2 value explains the observed variability of adoption. Thus, R and R^2 were calculated. The calculations supported the notion that the dependent variable can be perfectly predicted from the independent variables (see Table 4).

To further ensure the reliability of the instrument, factor analyses were done using the principal components method of analysis with a varimax rotation applied to the data. Factor loadings of the Instrument confirm the relationships between the survey items and presented construct validity of values between 0.7024 and 0.9294. According to Hair et al. (2010), factor loading estimates should be higher than 0.5, and ideally, 0.7 or higher.

Table 4: Internal Consistency Reliability for Constructs at 95% coefficient Level and P <0.0001

Construct name	Item	Inter-item correlation	R	R2
Monitoring Privacy Concerns	Q1	1	0.6178	0.4296
	Q2	0.8341		
	Q3	0.8363		
	Q4	0.8804		
Monitoring Productivity Impact	Q5	1	0.6221	0.3846
	Q6	0.5873		
	Q7	0.6355		
Monitoring Perceived effect on Security	Q8	1	0.8983	0.6551
	Q9	0.8088		
	Q10	0.8404		
Acceptable Use	Q11	1	0.8377	0.7212
	Q12	0.8709		



Policies Enforcement	Q13	0.8779	0.8481	1				
	Q14	1				0.8672	0.7498	
Employs Attitudes Towards Monitoring	Q15	0.8534	1.0000					
	Q16	0.5794	0.5399	1				
	Q17	0.8566	0.8704	0.8411	1			
	Q18	0.8714	0.8284	0.8284	0.8812	1		
	Q19	0.8479	0.8060	0.8060	0.8574	0.6594	1	
	Q20	0.8335	0.8469	0.8184	0.8335	0.8469	0.8184	1

Hypotheses Testing and Research Findings

The first Hypothesis (H01):

The descriptive statistics of scores for employee’s privacy concerns when being monitored are summarized in Table 5. The mean score for the users' tendency to trust the online banking is 3.18 with a standard deviation of 0.89, in a scale of 1 to 5.

Table 5: Statistics of scores for employees’ privacy concerns when being monitored

Observation number	Median	Mean	St. Dev
148	3.50	3.18	0.89

The Second Hypothesis (H02):

Our second hypothesis is that Employee Monitoring has a negative impact on Productivity. The descriptive statistics of scores for monitoring impact on productivity is in Table 6. The mean score for monitoring impact on productivity is 3.68 with a standard deviation of 0.71, in a scale of 1 to 5.

Table 6: Statistics of monitoring impact on productivity

Number of Observations	Median	Mean	St. Dev.
148	3.75	3.68	0.71

The Third Hypothesis (H03):

Our third hypothesis is that employee monitoring provides increased internal security and protection from harassment. The effect of monitoring on internal security and protection from harassment are summarized in Table 7. The mean score for monitoring impact on productivity is 2.85 with a standard deviation of 1.06, in a scale of 1 to 5.

Table 7: The effect of monitoring on internal security and protection from harassment

Number of Observations	Median	Mean	St. Dev.
148	3.02	2.85	1.06

The Forth Hypothesis (H04):

Our fourth hypothesis is that employee monitoring helps enforce acceptable use policies. The descriptive statistics score of perceived capability of monitoring to enforce acceptable use policies is summarized in Table 8. The mean score for monitoring impact on productivity is 3.32 with a standard deviation of 0.94, in a scale of 1 to 5.

Table 8: The perceived capability of monitoring to enforce acceptable use policies

Number of Observations	Median	Mean	St. Dev.
148	3.57	3.32	0.94

The Fifth Hypothesis (H5):

Our fifth and last hypothesis is that the perceived risks have a positive impact on employs attitudes towards employee monitoring. The descriptive statistics score of impact of perceived risks on employs attitudes towards monitoring is summarized in Table 9. The mean score for monitoring impact on productivity is 4.15 with a standard deviation of 0.78, in a scale of 1 to 5.

Table 9: The impact of perceived risks on employs attitudes towards monitoring.

Number of Observations	Median	Mean	St. Dev.
148	4.2	4.15	0.78

Conclusion

The descriptive statistics of scores for all of the five hypotheses presents enough supporting evidence to be accepted. And further analysis of the collected suggests that the participants recognize the benefits that the companies' gain by monitoring their employees, but regard that this gain is at the price of the employees' privacy. In fact, while this also true that the perceived effect of monitoring is an increased internal security and protection from harassment, but deep analysis of his hypothesis (H03), points out that it was supported due to an intended error in the survey. That is, when looking at the question about if employee monitoring can have positive impacts on cybersecurity and help protect workers, this question received low support, where more than 80% of the participants (114 participants) selected I disagree for an answer. It seems that there was a need to ask more questions regarding the security and protections of employees rather than the systems and compliance of data and information protection as it is the current case. It is also evident that from privacy standpoint, the use of employee monitoring can conflict with the privacy desires of employees, by expressing their views in terms of risks toward invasion of privacy.

References

Aloisi, Antonio & Gramano, Elena. (2020). Artificial Intelligence Is Watching You at Work. Digital Surveillance, Employee Monitoring and Regulatory Issues in the EU Context.

Armstrong, M. & Baron, A. (2010). Managing performance: performance management in action, London: CIPD.

Evolutions of various new occupations as an offshoot of technological innovation need employees to engage in fresh learning and get oneself adaptable with changes in an efficient manner (Griffin, Parker, & Mason, 2010;

Fried, Y., Levi, A.S., & Laurence, G. (2008). Motivation and job design in the new world of work. In C. Cooper & C. Cartwright (Eds), *The Oxford handbook of personnel psychology* (pp. 586–611). Oxford: Oxford University Press.

Griffin, M., Parker, S., & Mason, C. (2010). Leader vision and the development of adaptive and proactive performance: A longitudinal study. *Journal of Applied Psychology*, 95(3), 174–182.

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate Data Analysis*. Seventh Edition. Prentice Hall, Upper Saddle River, New Jersey.

Huth, C. L.(2013), The insider threat and employee privacy: An overview of recent case law, *Computer Law & Security Review*, Volume 29, Issue 4, , Pages 368-381

Keh-Luh, W., Chi, C., & Chiu-Mei, T. (2012). Integrating human resource management and knowledge management: from the viewpoint of core employees and organizational performance. *International Journal Of Organizational Innovation*, 5(1), 109-137.

Kirstie, B. (2021), *Electronic Monitoring and Surveillance in the Workplace. Literature review and policy recommendations*, Publications Office of the European Union, Luxembourg, ISBN 978-92-76-43340-8, doi:10.2760/5137, JRC125716.

Leadership task performance is labeled through setting strategic goals, upholding the necessary performance standards, motivating and directing subordinates to accomplish the job through encouragement, recognition, and constructive criticisms (Borman, & Brush, 1993; Tripathy, 2014).

Lee, M. K., Kusbit, D., Metsky, E., & Dabbish, L. (2015). Working with machines: The impact of algorithmic and data-driven management on human workers. *Proceedings of the 33rd ACM Conference on Human Factors in Computing Systems*.

Manokha, I. (2020). The implications of digital employee monitoring and people analytics for power relations in the workplace. *Surveillance and Society*, 18(4), pp. 540–554.

Martin, K. & Freeman, R. (2003). Some Problems with Employee Monitoring. *Journal of Business Ethics*. 43. 353-361.

Mateescu, A. and Nguyen, A. (2019), Workplace Monitoring & Surveillance. Accessed [https://datasociety.net/wp-](https://datasociety.net/wp-content/uploads/2019/02/DS_Workplace_Monitoring_Surveillance_Explainer.pdf)

[content/uploads/2019/02/DS_Workplace_Monitoring_Surveillance_Explainer.pdf](https://datasociety.net/wp-content/uploads/2019/02/DS_Workplace_Monitoring_Surveillance_Explainer.pdf)

Möhlmann, M., & Zalmanson, L. (2017). Hands on the wheel: Navigating algorithmic management and Uber drivers' autonomy. Proceedings of the 38th International Conference on Information Systems.

OPM (2017), A Handbook for Measuring Employee Performance, Office of Personnel Management, Document number ES/SWP-02803-03-17.

Oprea, M. (2012). An Agent-Based Knowledge Management System for University Research Activity Monitoring. *Informatica Economica*, 16(3), 136-147.

Qualtrics (2022, February 15), "Convenience sampling method: How and when to use it?", Qualtrics: <https://www.qualtrics.com/experience-management/research/convenience-sampling/>

Saleh, Z. & Abu-Shanab, E. (2010). The Role of Risk Related Knowledge in the Diffusion of Internet Innovations. *Journal of Information & Knowledge Management (JIKM)*. 09. pp. 31-40.

Samaranayake, V. and Gamage, C. (2012), Employee perception towards electronic monitoring at work place and its impact on job satisfaction of software professionals in Sri Lanka. *Telematics and Informatics* Vol 29, Issue 2 , pp 233-244

Schulman, A. (2001), Computer and internet surveillance in the workplace. 'E-privacy in the new economy' conference, organised by the Hong Kong Privacy Commissioner, held in Hong Kong on 26 March 2001.

Smith, W. P. and Tabak, F. (2017) , Monitoring Employee E-mails: Is There Any Room for Privacy? *Academy of Management Perspectives* Vol. 23, No. 4

SoftActivity (2021, December 20). Employee Monitoring: An Expert Guide, accessed <https://www.softactivity.com/employee-monitoring/>

Tripathy, S.P. (2014). Impact of motivation on job performance of contractual staff in Devi Ahilya University Indore (M.P.). *Paripex-Indian Journal of Research*, 3(5), 1–5.