Electronic Performance Monitoring Friend or Foe? Empowering Employees through Data Analytics

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Abstract

Recent advances in electronic performance monitoring (EPM) have raised employee concerns regarding invasion of privacy and the erosion of trust. However, the use of data analytics on the EPM data promises to improve organizational and employee performance. Aligning the design of the EPM system with the organizational culture and establishing effective organizational mechanisms to address concerns will positively affect how employees perceive the technology. Data collected from two organizations in the US and in Qatar within the oil and gas sector reveals organizational efforts to promote the image of EPM as an employee-empowering technology, providing objective feedback to achieve individual and organizational goals.

Keywords


Introduction

Organizations consider Electronic Performance Monitoring (EPM) a critical control mechanism that aims at focusing employee attention towards achieving organizational goals (Alge 2001) and away from activities that negatively affect organizational outcome (Pierce et. al. 2015). EPM systems capture data on employee behavior and outcome on the job. EPM takes many forms; monitoring productivity (Wells et. al. 2007), electronic communication, and internet activity (Alder et. al 2008; Wen, Schwieger, and Gershuny 2007), employee location and speech (Holt et. al 2017). New developments in monitoring technology and the use of data analytics have radically transformed how organizations manage and control employees (Davenport and Harris 2007, Evans 2013) identifying the talent segment that makes the biggest contribution to organizational success and optimizing its performance (Boudreau and Jesuthasan, 2011).

Despite these great promises, recent studies are calling for the abolition of the technology drawing the attention to the negative effects on the hiring and retention of employees(Angrave et. al 2016), along with the ethical issues surrounding the use of data analytics (Holt, Lang, and Sutton 2017). While the call to closely examine the effects of EPM is warranted, differences between organizations in values and beliefs and thus of their employees’ perception of EPM need to be considered (Alder 2001, Panina and Aiello 2005). The cultural context in which an EPM is adopted will have a significant impact on how employees respond to these systems.

The impact of culture on the acceptance of information systems has been widely examined in the IS literature. The set of values, beliefs, and behavior patterns that define the identity of organizations are likely to create different frames of reference that affect how employees perceive information systems. Like other IT systems, EPM needs to be customized to fit the national and organizational culture to generate the expected positive outcome for the employee and the organization. To address the contradiction between supporters and critics of EPM systems and data analytics, we examine the effect of national and corporate
culture on employee reaction to electronic monitoring based on the frameworks of Alder (2001) and Panina and Aiello (2005). In particular, this study attempts to answer the following research Questions:

1) How do cultural differences affect employee acceptance of EPM systems?
2) How effective are the organizational mechanisms in reshaping negative perceptions surrounding EPM systems?

The study shifts the focus from the normative question of what needs to be done to an interpretative inquiry of how EPM can be implemented to fit the cultural context and with what outcomes. To answer the research questions, we conduct a case study of two organizations in the United States and Qatar and examine how different cultural contexts are successful in positively shaping employee perceptions towards the technology. The rest of the paper contains theoretical background of the effect of culture on employee perceptions of EPM, the research method, and preliminary results of the study.

**Theoretical Lens: The Effect of Culture on the Acceptance of an EPM**

Drawing on the conceptual frameworks of Alder (2001) and Panina and Aiello (2005), our study contends that the acceptance of an EPM will depend on how well the dimensions of the monitoring systems have been designed to align with national and corporate culture, and the effective organizational mechanisms to reshape negative perceptions (Stanton 2000). Five dimensions of EPM impact employee acceptance of the technology: 1) the target of an EPM either the individual or the group (Aiello and Kolb 1995); 2) the level of pervasiveness of an EPM depending on whether the monitoring is intermittent or ongoing (Zweig and Webster 2002); 3) the recipient of the results of the EPM be it the employee, the supervisor, and/or the group (Alder 2001); 4) The purpose of the EPM to assess the performance of an employee or provide feedback (Moorman and Wells, 2003); and 5) Concomitant practices that support the EPM system like the reward system.

**Effect of National Culture on Employee Acceptance of EPM**

Employees with different cultural backgrounds respond differently to EPM. Using Hofstede’s cultural taxonomy, Panina and Aiello (2005) propose a conceptual model of the effect of the dimensions of national culture on employee acceptance of EPM. The authors maintain that the dimensions of the EPM need to be aligned with the employee’s cultural values. An individualistic culture with a large power distance, a masculine orientation, and a short-term focus is more likely to accept EPM, whereas a collectivist culture, with small power distance, a feminine orientation and a long-term focus is less likely to accept EPM. In an individualistic culture, it is better to monitor the individual, who over the years seems to be less concerned with the pervasiveness of monitoring (Zakaria 2003). In a collectivist culture, it is better for the EPM to monitor group activity and group performance, to provide feedback to the group, to focus on mentoring and developing the employee, and to reward the process rather than the outcome.

**Effect of Corporate Culture on Employee Acceptance of EPM**

Research on organizational behavior has long established the premise that variations in the cultural beliefs among companies have a significant effect on employee behavior and attitude (Cooke and Rousseau, 1988; Wilkins and Ouchi 1983). The acceptance of an EPM is affected by the corporate beliefs and values that most organizational members hold (Jeng-Chung and Ross 2005, Alder 2001). Alder (2001) differentiates between bureaucratic and supportive organizations and proposes that employees in bureaucratic organizations will perceive pervasive electronic monitoring as fair without their participation in its design. This is mainly because participation appears counter cultural (Nutt 1996) and leads to suspicion (Matejka and Liebowitz 1989). In a bureaucratic culture, individual performance is valued over group cohesion and team work. Individuals also welcome continuous monitoring because it produces a comprehensive view of the effort they exert on the job and is a fair evaluation of their performance (Grant and Higgins 1989). Employees also do not worry about the relevance of the data collected by the monitoring system to their task performance. Supportive cultures, on the other hand, do not generally accept electronic monitoring, unless employees participate in its design and the monitoring is intermittent. The target of the monitoring is the group performance.
In addition to the major differentiation between bureaucratic and supportive cultures, Jeng-Chung and Ross (2005) looked at the value of objectivity within corporate cultures and proposed that managers who appreciate the importance of basing decisions on objective data will favor electronic monitoring of employees. A positive perception towards the technology will have a strong impact on adoption. The belief that technology can prevent theft and create an ethical environment especially with a history of employee theft or national security concerns will strongly sway decisions in favor of adoption.

**Effect of Organizational Mechanisms on Employee Acceptance of EPM**

Organizational procedures surrounding electronic monitoring affect employee trust in the organization and their acceptance of EPM systems (Stanton 2000). Employee prior knowledge of the monitoring processes, its scope, and how the data collected will be used (Aiello and Kolb 1995) affected how employees perceive EPM. In addition, their active engagement in the design of the monitoring systems and their ability to voice concerns regarding the processes involved (Amick & Smith 1992), or how the output of the system is used tend to create favorable perceptions of EPM.

Based on the frameworks of Alder (2001), Panina and Aiello (2005), and Stanton (2000), we advance the following propositions

**Propositions**

P1: An EPM system whose dimensions are aligned with the national culture will enhance employee perception towards electronic Monitoring

P2: An EPM system whose dimensions are aligned with the corporate culture will enhance employee perception towards electronic Monitoring.

P3: An EPM system will be more acceptable by employees when organizational mechanisms to reshape negative perceptions regarding the technology are in place.

**Research Methodology**

The study of the effect of culture on the acceptance of information technology is best achieved through qualitative research due to the complex interaction between the different dimensions of IT and the dimensions of culture. In this study, we conduct a comparative case study of two organizations: one in Qatar and one in the US to highlight the cross-cultural and inter-organizational differences in employee acceptance of electronic monitoring.

We selected Qatar and the United States as they have different ranking on Hofstede cultural dimensions (Dulaimi and Sailan 2011). Compared to the US, Qatar is ranked high on power distance, uncertainty avoidance, and individualism. The orientation within the country is neither masculine nor feminine. The society is known for its restraint to preserve the cultural identity in terms of appearance and the overt respect to religious values. The United States, on the other hand, ranks lower on power distance, restraint, and uncertainty avoidance, and almost the same on individualism and masculinity. The two cases selected are in the Oil and Gas sector: an industry known for its high competitive environment and fast adoption of monitoring systems to reduce cost and lower the risks of regulatory non-compliance.

In the US, we studied USOIL, an oilfield service provider for reservoir characterization, drilling, production and processing. The company takes pride in its culture of science and innovation leveraging its collective experience and the diverse background and knowledge of its employees. There are several monitoring systems in place within office buildings, on equipment and mobile devices for monitoring employees’ safety, behavioral awareness and performance evaluation. In Qatar, the case selected is PRIMO, a petrochemical company, whose main product, is used for the manufacture of environmentally friendly household detergents. The company strives to provide the necessary training and career development to have an incident-free, and clean workplace. Monitoring systems are installed in factories and in offices with the objective of running a very lean organizational structure that is safe and productive.

We conducted a total of 26 interviews. In each company, we interviewed the following stakeholders: senior managers who oversee the entire work operations; HR managers who are in charge of setting policies that govern monitoring; directors of functional departments who evaluate the performance of employees; and

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staff employees who perform daily business processes. Each interview lasted between 45-60 minutes. We recorded and transcribed the interviews. We are currently following Krippendorf’s (1980) approach of “content analysis,” assigning words from the interviews to an indicator from the proposed model using QSR NVivo qualitative analysis Software. New codes that were not included in the original model emerged from the data, a process known as open coding, unearthing other conditions that affected employee perceptions of electronic performance monitoring.

**Preliminary Findings**

Data collected from both companies supported the propositions that employee acceptance of the system depends on the alignment of the dimensions of the EPM with the national and corporate culture. Given Qatar’s national culture in terms of its individualistic culture, large power distance, and short-term focus, and PRIMO’s bureaucratic culture, a widely accepted EPM was in place to help the administration manage a diverse workforce of different cultural backgrounds and different work ethics. Managers believed the EPM is effective in enforcing a standard set of HR policies and regulations that would motivate all to achieve the organization objectives and ensure that the value created is sustaining PRIMO’s competitive edge. Management and employees alike agreed that the EPM was pervasive continuously monitoring both the behavior and outcome of the individual. Results are shared with the individual and the supervisor with the objective of assessing the performance of the employee and providing feedback for possible adjustments. Employees and managers contended that data collected is objective and comprehensive.

Preliminary analysis of the data collected from USOIL also confirmed the effect of corporate culture on the design of the EPM and its acceptance. USOIL corporate culture is known for its support for innovation, challenge, risk taking, and creativity. Employees are constantly challenged with higher goals and objectives with adequate awareness of the monitoring tools that tracks behavior, safety and performance. Participants perceived the monitoring tools as an empowerment, because of the immediate feedback on achievements and possible areas of improvement with recommendation on necessary training to help the employee learn and overcome any short comings. The feedback system has encouraged employee self-monitoring and self-awareness in the workplace.

**Conclusion**

In this study, we test the validity of two conceptual frameworks that draw on the effect of national and corporate culture on employee reaction to electronic monitoring (Alder 2001, Panina and Aiello 2005). We conduct a comparative study within two organizations in the United States and Qatar to examine how organizations with different national and corporate cultures can successfully reshape employee perceptions. The study highlights the role of the technology in raising self-awareness and self-monitoring and increasing the chances of employees to meet performance objectives. This study contributes to both theory and practice. First, it tests the propositions of the roles of national and corporate culture in defining employee perceptions towards electronic monitoring. Adopting a case study methodology allows for the development of a new theory that extends our understanding of how employees with different cultural background perceive electronic monitoring. Second, this study contributes to the literature by examining effective organizational mechanisms to reshape negative perceptions, an area that has received little attention in current research. Third, the study addresses concerns regarding the use of data analytics that may hinder organizations from fully benefiting from the technology. The findings also have implications for practice as they address the effect of cultural background on employee perceptions. This is particularly important for multinational organizations to realize the fit between the design of electronic performance monitoring systems and the cultural setting. Additionally, results suggest that organizations who aspire to use analytics on employee monitoring data need to do more than providing justifications and create an environment where the analytics prove to be beneficial to the employee and the organization.
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REFERENCES


