The Moderating Role of Competition and Paradoxical Leadership on Perceptions of Fairness towards IoT Monitoring

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Abstract

Recent advances in monitoring systems used in the workspace are stirring a great deal of controversy. Several devices connected to the internet, coined as the Internet of Things (IoT), are now used to capture and analyze huge amounts of information on employee behavior to improve overall performance. Given the implications of the technology on privacy and predictive behavior, there is a dearth of studies that investigate employee perceptions to the unique challenges of "always on" monitoring and the power of analytics. To address this gap, the objective of the paper is answering the research question of how IoT-enabled monitoring influences employee perceptions of fairness. Based on the literature review, the pervasive and continuous nature of IoT-enabled monitoring suggests that, if not effectively managed, the technology will intensify employee perceptions of unfairness and lead to lack of commitment to the organization. We conducted semi-structured interviews with employees at two organizations in Qatar. The research in progress challenges current propositions on electronic monitoring and highlight the emerging role of competition, and paradoxical leadership in moderating the relationship between IoT-enabled monitoring and perceptions of fairness.

Keywords

Internet of Things, Electronic Performance Monitoring, Paradoxical Leadership.

Introduction

Monitoring of the workspace is an important control of corporate governance aimed at influencing employee behavior to achieve organizational objectives. Research has continually proven that the use of monitoring systems positively influences organizational performance (Bhave 2014). With the diffusion of information technology, electronic monitoring systems are automatically collecting data on employee performance and suggesting ways to improve productivity (Attewell 1987, George 1996).

The Internet of Things (IoT) is an emerging set of technologies that connects devices to the internet to remotely monitor and control performance. The devices collect, share, and analyze data to intelligently track behavior, optimize resource consumption, enhance situational awareness, and improve business processes (Li et al. 2015). To enable remote control and the development of collective intelligence, IoT-enabled monitoring is "always on," tracking employee behavior throughout the working day. For example, socio-metric employee badges, accompanied with microphones, location sensors, and accelomter, collect data on an employee's location, movement, and even affective display, to identify ways to maximize performance (Whitmore et al. 2015). Wearing the badge is also exercising control on employee self-expression in an effort to portray "the right image for the right audience" all the time (Mehra et. al. 2001; pg 124). Though pervasive in nature, there is no empirical evidence to support or refute claims that IoT-enabled monitoring in the workspace will negatively impact employee perceptions of the technology. Proponents of the technology claim that IoT in the workplace will help organizations quantify the employee and suggest modifications to specific behavior to improve performance (Li et al. 2015). The technology will also help the employee reveal his/her overall value to the organization and thus will promote fairness (McNall and Stanton 2011). On the other hand, critics are alarmed that IoT-enabled

monitoring, is a "deliberate tactic to enhance managerial power," (Attewell 1987 pp. 88), stripping employees of privacy, and putting them under pressure to continuously improve productivity (Ajunwa et al. 2017).

In an attempt to understand how employees perceive the technology, we are conducting a case study of companies in Qatar that implemented IoT-enabled monitoring of the workspace. Qatar is known for its high adoption rate of cutting edge monitoring and surveillance technology because of the country's high dependence on foreign labor (contributing to almost 90% of the total population). With the recent dip in oil prices, companies are running extremely lean operations and are actively using monitoring systems to cut cost and increase productivity. This research in progress does not support the proposition that IoT-enabled monitoring leads to perceptions of unfairness. The case highlights the roles of competition and paradoxical leadership in moderating the effect of IoT-enabled monitoring on perceptions of fairness in the workplace.

This paper proceeds as follows. In the next section, we build the theoretical background of monitoring as a control system and its effect on employee perceptions of fairness. We draw propositions regarding IoT-enabled monitoring and discuss preliminary findings from the case study. We end the paper with possible explanations of the results.

Theoretical Background

Based on agency theory, monitoring employee performance is critical for organizations to ensure that individual goals and objectives are aligned with the overall organizational goals (Eisenhardt 1989 a). Since agents are self-serving and may shirk to evade work (Bhave 2014), it is important for organizations to establish systematic monitoring to reduce the behavioral agency costs. The use of electronic monitoring systems significantly reduces the principal's monitoring cost, channeling the power of information asymmetry away from the agent, and allows the principal to capture details on how the agents perform their daily tasks (Li et al. 2015).

According to equity theory, employees are likely to perceive monitoring as unfair when work rewards are unproportionally distributed relative to work inputs (Niehoff and Moorman 1993). Perceptions of unfairness emerge when organizational procedures for monitoring are inconsistent, unpredicted, or do not follow global standards (Lester & Kickul, 2001). On the other hand, employees will perceive monitoring as fair when they have prior knowledge and they are given plausible justification for the monitoring (Hovorka-Mead et al. 2002). Allowing employees to have a voice to challenge the results of a monitoring system will result in favorable perceptions of fairness (Holland et al. 2015).

IoT Monitoring

IoT-enabled Monitoring at the workplace is the latest development in Electronic Performance Monitoring (EPM) systems that automatically capture quantitative and qualitative data on employee performance and analyze it to ensure that employees are achieving organizational objectives (Bhave 2014, Chory et al. 2016, George 1996, Stanton 2000). The technology uses video capture, GPS, phone applications, social media, and other sensing devices that share and analyze data to build a more comprehensive view of the employee (Ajunwa et al. 2017). Personal data like employee vital signs; the heart rate, body temperature, and movement on 3D axis, are also collected (Van der Valk et al. 2015). As such, the technology serves as an "electronic presence" (Aiello and Svec 1993), that extends beyond the work time and space, raising concerns over fairness, especially after punitive actions were taken against employees for work-unrelated activities (Hazlehurst 2014).

Perceptions of Fairness

Perceptions of fairness are formed in response to organizational outcomes (distributive fairness), the procedures that determine the outcome (procedural fairness), or the treatment employees receive from authority figures (interactional fairness) (Cohen-Charash and Spector 2001). Monitoring as a procedure for performance evaluation and the distribution of rewards has been studied in relation to perceptions of fairness (McNall and Stanton 2011, Stanton 2000, Zweig and Scott 2007). While some studies reported that monitoring systems create a depersonalized atmosphere and lead to the erosion of trust and perceptions of unfairness (Hovorka-Mead et al, 2002: Lester & Kickul, 2001), others supported a positive

relationship between electronic monitoring and perceptions of fairness (Kidwell & Bennett, 1994). The difference in results depends on how monitoring is managed (Chang et. al. 2015). Providing employees with prior knowledge and frequent feedback, and following standard procedures will result in positive perceptions of fairness. We thus propose that *IoT-enabled monitoring will negatively influence employee perceptions of fairness, if not effectively managed.*

Prior Knowledge

Employee judgment of the procedural fairness of monitoring systems is influenced by their advance knowledge of the monitoring process (Kidwell & Bennett, 1994). Employees are likely to judge the monitoring process as fair if they are given prior notice to prepare for the monitoring (Stanton 2000). Providing information to employees on the process, the objective of the monitoring system (Alder et al. 2006) and how the data collected is used to help them succeed at work (McNall and Stanton 2011) creates an atmosphere of trust and a perception that the organization respect employee's privacy and dignity proposing that *prior knowledge of the IoT monitoring will positively influence perceptions of fairness.*

Consistency

Consistency of the processes governing the use of monitoring systems across time and among employees affects the perception of fairness (Stanton 2000). The absence of bias in the selection of employees to be monitored and the standardization of the collection and analysis of data will lead to positive perceptions of fairness (Niehoff and Moorman 1993). The monitoring process should also be consistent over time to identify both negative and positive behavior to form a comprehensive view of the employee performance. Accordingly, we propose that *consistency in the use of IoT-enabled monitoring across people and across time will positively influence perceptions of fairness.*

Voice

Employees are likely to perceive monitoring systems as fair when they have a voice in the procedures that govern their monitoring (Hovorka-Mead et al. 2002) and they are given frequent feedback (Moorman and Wells 2003). Employees feel empowered when organizational channels exist for them to voice their opinion regarding what data is being collected and how it is being used (Stanton 2000). The ability to challenge decisions based on data collected from monitoring systems will also promote perceptions of fairness (Zweig and Scott 2007). Accordingly, we propose that *giving employees channels to voice their concern about IoT-enabled monitoring will positively influence perceptions of fairness.*

Methodology

In this study, we adopted qualitative research as our methodological premise to explore the relationship between IoT-enabled monitoring and perceptions of fairness. We collected data from two oil and gas organizations in Qatar to test the validity of the proposed hypotheses (Eisenhardt, 1989). Both companies have used electronic performance monitoring in the past and in the last two years have adopted IoT-enabled monitoring to control employee performance. We identified the stakeholders as: senior managers who oversaw the entire work operations; HR managers who were in charge of setting policies that govern monitoring; directors of functional departments who evaluate the performance of employees; and staff employees who perform daily business processes. We recorded and transcribed the interviews and followed the Krippendorf (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 IoT-enabled monitoring.

Preliminary Findings

Based on the preliminary analysis of the data collected from participants in both companies, there is no evidence that IoT-enabled monitoring is negatively influencing perceptions of fairness. Despite employees' perceptions that the monitoring is very invasive, keeping track of employee's location, amount of time socializing, productivity, and relationships with others, employees were desensitized to being

watched and felt that it was the norm in Qatar. There was no support to the proposition that prior knowledge influence perceptions of fairness. Employees knew they were being monitored but had no clear understanding of what devices or applications are being used to monitor their behavior, what data is being collected, and how it is being used. However, they believed monitoring processes were in-line with what other companies in Qatar were following. Employees felt that the monitoring system was used consistently to administer procedural and distributive fairness among expats. However, favorable treatment was extended to Qataris, justified by the implicit responsibility of expats to develop local talents. Employees felt they had no voice in defining the monitoring process or in challenging its output. However, they were given frequent feedback throughout the year to allow them opportunities to improve their performance before the end of the evaluation cycle.

Two emergent constructs moderated the relationship between IoT-enabled monitoring and perceptions of fairness: competition, and paradoxical leadership. Many employees feared the high level of competition from the constant flow of foreign laborer. Competition has driven performance expectations up, causing employees to take on citizenship behavior even at their own time to continue to meet the new expectations. The competition caused employees to be more concerned about keeping their jobs that they did not pay heed to voice, prior knowledge, or consistency with respect to monitoring. Leadership at both companies effectively managed the paradox of providing strong employee support while raising performance expectations. In several instances, employees reported that their immediate managers provided strong emotional support in critical situations while demanding high performance. With the high-performance expectations came very generous financial rewards. Employees also stressed that monitoring data was provided frequently to help develop the employees rather than punish them.

Conclusion

The objective of this research in progress is to examine the effect of IoT-enabled monitoring on employee perceptions of fairness. Based on the literature review, the pervasive nature of IoT monitoring and the use of analytics are raising concerns of unfairness. Prior knowledge, consistency, and voice with regard to the monitoring system are constructs reported in the literature to influence perceptions of fairness. Data collected from two organizations in Qatar did not support propositions suggested by the literature but emerged two new constructs: competition and paradoxical leadership as moderators of the relationship between IoT-enabled monitoring and perceptions of fairness. A possible explanation of the results is that the fierce completion and IoT monitoring causes employees to exercise high level of self-control, a concept that has been linked to positive perceptions of fairness (Piquero et al. 2004). In addition, paradoxical leadership, while sustaining a high level of control provides lucrative financial rewards, causing employees to overlook the procedural injustice they experience through IoT-enabled monitoring and to maintain positive perceptions of organizational justice. The results are in-line with Cojuharenco and Patient (2013) who reported that distributive justice is more salient in shaping personal perceptions of fairness to a point that the mental processes underlying preference for fairness and those underlying preference for greater monetary outcome could not be distinguished. Employees with a high level of self-control will more likely accept unfair but financially rewarding workplace.

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