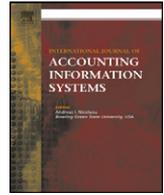




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# The use of technology-structured management controls: changes in senior management's decision-making behaviours



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### ABSTRACT

This paper looks at the perceived behavioural changes in senior management as a result of embracing information technology to enact and enforce management controls. A case study approach was used to explain the association between individuals and technology-structured management controls. Data were collected through observations, interviews and document analysis. The information technology helped senior management learn more about the inner operations and issues faced by other divisions in producing potential new products. Senior management had intended to use the information technology to control their subordinates and influence the new product development work being performed. However, they received more than that. Not only did the information technology allow senior management to monitor their subordinates, but the chief executive officer, who was removed from the formal decision process, was inadvertently able to quietly watch them. They were also opened up to more scrutiny by their peers and subordinates. Interestingly, the open transparency did not create fears steering senior management to make pretentious claims when assessing ideas, or use destructive language when critiquing each other. It actually created peer pressure among them and made them more circumspect. An objective, fair, respectful, collaborative, and harmonious decision-making environment was thus formed. As an electronic colleague, the information technology coached them towards what aspects to consider, facilitated fair participation from them, reminded them of the financial returns, spoke for those who would otherwise shy away, publicised to all involved what was being

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said and by whom, and tracked the completion progress of all designated tasks.

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## 1. Introduction

Information technology is increasingly being recognised and used as a tool to assist with managerial activities that involve decision making for complex organisational problems (Chapman, 2005). It plays an important role in creating new knowledge, and functions as a carrier of accounting information (Granlund, 2011). Information technology can help employees collect and analyse data as well as direct decision makers' attention to potential problems and solutions to aid their decision making.<sup>1</sup> It can also help businesses in creating value (Sambamurthy and Zmud, 2000; Farrell, 2003) and providing them with competitive advantage (Weill et al., 2002; Farrell, 2003). However, the effects of information technology are poorly reflected in the existing accounting literature (Granlund, 2011). The literature has focused largely on the technical design aspects of information technology rather than on managerial issues and control implications (Granlund and Mouritsen, 2003; Granlund, 2011). In particular, the literature has been criticised for not considering "how precisely [information] technology drives management control logic, and how management control problems drive information technology solutions" (Granlund and Mouritsen, 2003, p.79). Given the increasing use and reliance on information technology for accounting, it is imperative that we understand the resulting effects from the use of information technology for management control (Granlund, 2011).

The purposes of this paper are to explore the use of information technology as a formal mechanism to enact and enforce automated management control and to better understand how the use of such an automated mechanism can influence the behaviour of individuals. Technology-structured management control can help senior management monitor and scrutinise the work activities of subordinates, as well as manage and coach subordinates on how best to complete the designated work to meet a business's desired outcomes. This paper focuses on senior management who are the "watchers" and superiors who chose to use information technology to control their subordinates. To achieve the paper's objectives a case study was carried out to observe how technology-structured management control steered the firm's decision-making process and influenced the social interactions and decision-making behaviours of its senior management.

Management control is about "the formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities" (Simons, 1995, p.5) and everything managers do to help ensure that their organisation's strategies and plans are carried out (Merchant and van der Stede, 2007). Using information technology as a formal control mechanism may help provide management with automated management control to "actively monitor and intervene" in the activities of their subordinates (Simons, 1990, p.128). Technology-structured management control could help management "abolish [the] private and confidential space" behind closed doors and gather information that would otherwise be restricted to a small group of individuals behind closed doors (Roberts, 2009, p.958). Technology-structured management control has the potential to increase transparency and provide openness to organisations (Brivot and Gendron, 2011) and accountability among individuals (Roberts, 2009). It could supply surveillance capability for management to monitor the work activities carried out by their subordinates (Brivot and Gendron, 2011). This may result in individuals becoming aware that they are permanently visible and can be monitored, which causes them to modify their behaviours (Brivot and Gendron, 2011). "Fears of being exposed and humiliated" and labelled as a "bad employee" can cause individuals to become cautious when supplying the necessary information (Roberts, 2009, p. 958). They may feel the need to flatter when disclosing information (Roberts, 2009), or withhold or overstate the information in a deceitful manner in the pretence of contributing visibility (O'Neill, 2006; Roberts, 2009).

Despite the increasing reliance on information technology and the important role it plays, enacting and enforcing management control through information technology are a currently under-researched topic (Granlund and Mouritsen, 2003; Berry et al., 2009). Although there have been numerous studies

<sup>1</sup> In this paper, information technology is defined as a technology that supports individuals in their decision-making exercises, but excludes expert system and artificial intelligence.

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