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The Role of Psycho Social Factors and Employee Commitment on Human Resources Information System (HRIS) Practices: a Model Development

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THE ROLE OF PSYCHO SOCIAL FACTORS AND EMPLOYEE COMMITMENT ON HUMAN RESOURCES INFORMATION SYSTEM (HRIS) PRACTICES: A MODEL DEVELOPMENT

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ABSTRACT

The impact of technology on the health and well-being of workers has been a topic of interest since computers and computerized technology were widely introduced in the 1980s. Of recent concern is the impact of rapid technological advances on individuals' psychological well-being, especially due to advancements in mobile technology that have increased many workers' accessibility and expected productivity. In this chapter we focus on the associations between occupational stress and technology, especially behavioral and psychological reactions. We discuss some key facilitators and barriers associated with users' acceptance of and engagement with information and communication technology. We conclude with recommendations for ongoing research on managing occupational health and well-being in conjunction with technological advancements.

Keywords: Social factors, Employee Commitment, Human Resources Information System

INTRODUCTION

It is widely recognized that technological changes, both at work and more broadly, have had an enormous impact on people's lives and that much of this influence has been constructive and beneficial, for example, by developing a ''mobile'' workforce via telecommuting technologies. These technological advances have yielded positive benefits for individuals and their organizations. Nevertheless, there are also increasing concerns about the ''dark side'' of technologies and their negative impacts on levels of individual well-being. One major aim of ergonomics, for example, is to safeguard the physical and psychological health of workers by the most appropriate use of machinery and technology. A key element is the interaction between the worker and the technology: enhancing the ''userfriendliness'' of technology, improving worker performance, and minimizing the risks associated with the work environment. Specialized fields such as cognitive ergonomics focus on ensuring that the cognitive demands required to operate the technology do not overburden the user and that the technology complements the worker's mental schema of how to perform the job. One of the issues confronting many workers today,

however, is how technology has truncated their time, both in terms of their increased accessibility during nonwork hours and the increased speed at which work is now expected to be performed. Consequently, the relationship between psychological health and the implementation and usage of technology is now subject to detailed debate and research. This chapter provides an overview of the impact of technology on the psychological health and wellbeing of workers, with a specific focus on maintaining and enhancing their psychological and behavioral engagement with technology. The extent of technology utilized to assist us with our work and productivity has experienced exponential growth, especially over the last two decades. Recent reviews suggest that a large proportion of workers now use a computer in their job and that most workers (approximately half the global population) use a cell phone (O'Driscoll, Biron, & Cooper, 2009). Indeed, the pressure to keep up with new technology and software updates can be a significant source of stress in itself. The term techno-stress was coined in the 1980s to describe ''the inability of an individual or organization to adapt to the introduction and operation of new technology'' (Brod, 1982, p. 754). More recent definitions of techno-stress acknowledge the demands on employees to constantly renew their technical skills, to adapt to more complex technology/computer systems, and to increase their productivity (Wang, Shu, & Tu, 2008). The chapter concludes with a brief discussion of the implications for the management of occupational health and well-being and identifies areas of interest for future research. The types of technology available to workers today are vast, and there are many issues surrounding their usage. For the purposes of this chapter, we limit our focus to issues that are directly relevant to well-being at work.

REVIEW OF LITERATURE

Utilization of Human Resources Information system to provide communication with Employees:

The concept of ''technology'' has various meanings and subsumes numerous constructs. In recent years the term ''technology'' has predominantly been associated with computers and other devices used by workers to communicate with each other, share information, and perform work tasks. In addition to computers, mobile phones, personal digital assistants (PDAs), pagers, and blackberries are all examples of technologies utilized to increase work flexibility, efficiency, and productivity. It is evident that these technologies have become an essential tool for job performance and organizational productivity across virtually all aspects of employment. Our understanding of the range of factors which can influence the complex interface between people and computers/other technologies is developing rapidly, but remains somewhat incomplete (Olson & Olson, 2003). Extensive usage of advanced computer-based technologies is relatively recent. Coovert and Thompson (2003) noted that ''the 1960s marked the beginning of an era characterized by a growing reliance on sophisticated office technology such as photocopy machines and increasingly capable typewriters'' (p. 221). Computers were introduced into

workplaces (by IBM) in the early 1980s, along with the expression ‘‘user-friendly technology’’ (Coovert & Thompson, 2003). This expression signaled recognition that for technologies to be optimally effective, their design and implementation must be conducted in ways which take account of end-user cognitions, attitudes, competencies, and preferences. Recent research, which we review in this chapter, has built upon the theme of an optimal interface between the technology (both hardware and software) and the human operator. Mamaghani (2006) commented that prior to the 1990s the use of more ‘‘advanced’’ forms of computer technology was typically restricted to manufacturing and production companies. Several studies were conducted in the 1970s and 1980s to examine the psychosocial effects of advanced manufacturing technology (AMT). This research was often based on the job demands-control (JDC) model of work design enunciated by Karasek (1979). Mullarkey, Jackson, Wall, Wilson, and Grey-Taylor (1997), for example, investigated whether technological uncertainty and abstractness interact with two forms of personal control over work (method control and timing control) to predict levels of operator strain. Their findings did not support hypotheses derived from the JDC model, but they did identify interactions between technological uncertainty/abstractness and the pace of work. These authors therefore posited that a person–environment fit approach is useful when examining the impact of technology upon levels of occupational stress.

Importance of HR information and communication technology:

The use of ICT (Information and Communication Technology) has several distinct advantages and benefits for both workers and organizations, concerns have been raised about the potential negative impacts of ICT on the health and well-being of individuals. These concerns have led to research on the psychosocial impact of ICT. The expression techno-stress describes an array of negative reactions which individuals may experience when using ICT, particularly anxiety over one’s ability to use computers effectively, and physiological concomitants of this anxiety, including increased secretion of both adrenaline and noradrenaline. Arnetz and Wiholm (1997, p. 36), for example, described techno-stress as ‘‘the state of mental and physiological arousal observed in certain employees who are heavily dependent on computers in their work’’ and suggested that it occurs when ‘‘employees perceive there [sic] job as stimulating at the same time as they feel they do not quite master the necessary skills.’’ Reasons for the occurrence of techno-stress include the rapid pace of change in ICTs (i.e., constant adaptation to new systems), uncertainty about one’s ability to master the technology, and concern about how one’s capabilities will be viewed by other people. A parallel term that is less commonly cited is technophobia (i.e., the fear of technology). Technophobia is primarily caused by an individual’s acute anxiety over their ability to master the technology (Thorpe & Brosnan, 2007). Similarly, Thomee, Eklof, Gustafsson, Nilsson, and Hagberg (2007) referred to this anxiety as ICT stress, defined as a ‘‘condition brought on by interruptions at work, time pressure and technical problems in connection with ICT use’’ (p. 1301). ICT stress is therefore primarily associated

with the situational factors that can impede a person's ability to use ICT effectively, whereas techno-stress refers primarily to the psychological reactions to the technology itself. Nevertheless, there is considerable overlap between these concepts. Techno-stress covers a range of psychosocial reactions, including (as already mentioned) anxiety over the use and mastery of technology, frustration (due to utilization problems, software malfunctioning, and general inability to achieve anticipated outcomes), feelings of lack of selfefficacy, and depression. Individuals may also experience information overload (Bellotti, Ducheneaut, Howard, Smith, & Grinter, 2005), that is a feeling of being overwhelmed by the quantity of incoming information and the need to respond to it. Bellotti et al. suggested that experiences of information overload have risen exponentially with the increased use of email as a primary mechanism for communication. They reported that managers in particular are likely to experience information overload from email and frustration over an inability to monitor and manage multiple concurrent tasks for which they are responsible. Continuing overload can induce both anxieties over role performance and ultimately depression due to a sense of lack of accomplishment of important goals.

Employees' perception and views on HR Information and communication system:

The pervasiveness of computers and other forms of ICT in workplaces in recent years has been accompanied by a wealth of research on the potential correlates of ICT usage, especially psychosocial factors associated with its use. Several research constructs have received attention but the most prominent is computer-related anxiety, which is also linked (in the longer term) with depression, although there has been relatively little investigation of depression per se. Anxiety over the use of ICTs is a somewhat controversial issue, and popular belief is that it is age-related and probably declining among younger generations. Nevertheless, Smith and Caputi (2007, p. 1482) observed that ''one third of individuals within most populations experience computer anxiety to some degree'' and ''computer anxiety has been associated with the avoidance of, and resistance to, computer technology.'' Thorpe and Brosnan (2007) suggested that there is no evidence of a decline in the prevalence of ICT anxiety. It is clear that, while ICT anxiety may not affect all workers, when it does exist its effects can be severely detrimental to psychological health and well-being. In some cases, computer anxiety may reach ''clinical'' levels and cognitions of computer-anxious individuals are not dissimilar from those of people with other phobias (Thorpe & Brosnan, 2007).

HR information system and Psycho-Social well being:

A theoretical model of computer-related frustration was proposed by Bessiere, Newhagen, Robinson, and Shneiderman (2006), who observed that frustration ''has not been rigorously conceptualized as a factor in the study of the human–computer interface'' (p. 941), despite the

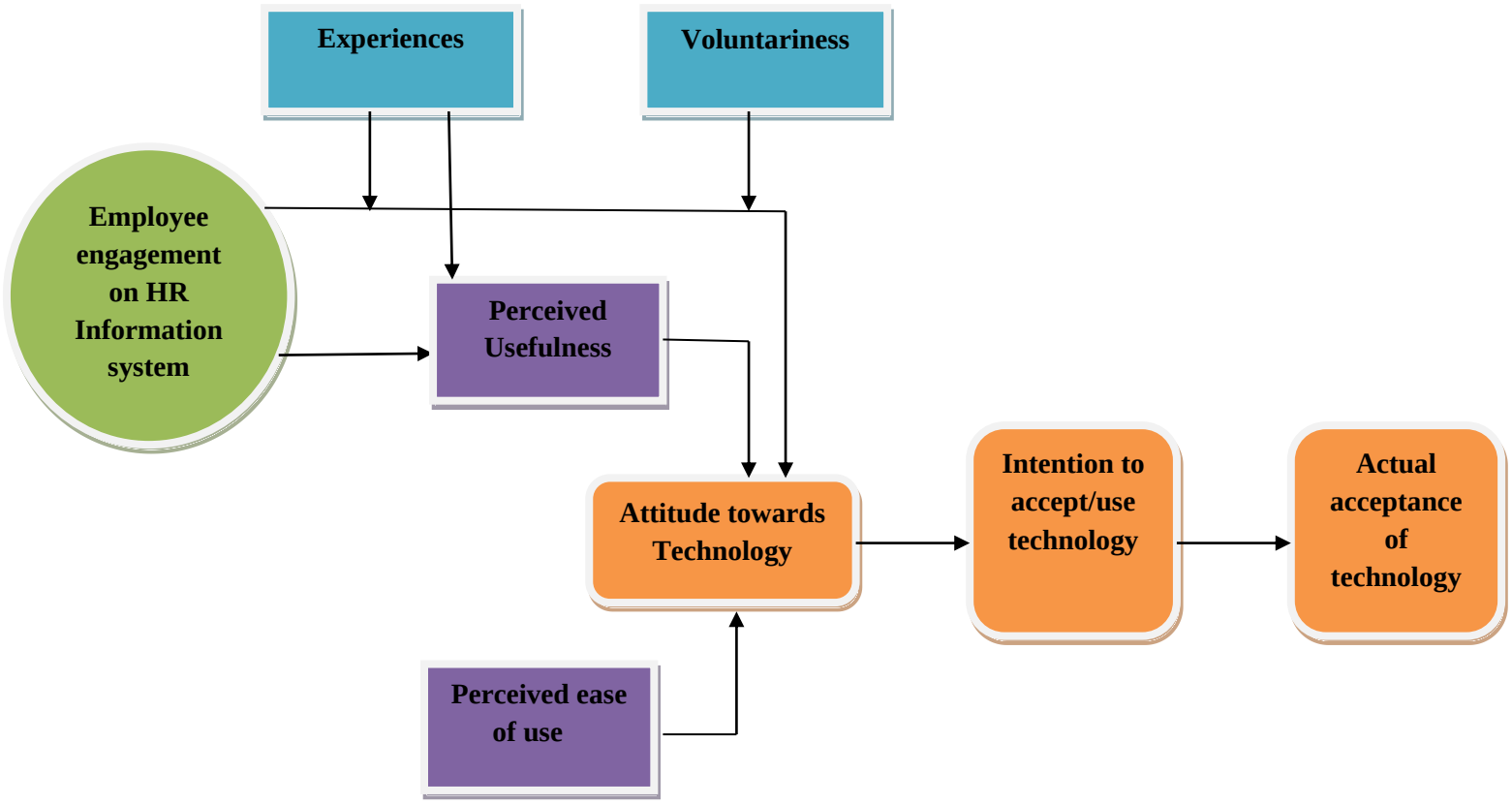
fact that it is a frequent complaint among computer users. Bessiere et al. defined frustration as an emotional response to circumstances that thwart a person's ability to achieve their goals. In the case of ICTs, this can occur when (for example) programs do not perform as expected, the system ''crashes,'' there are excessive time delays in sending or retrieving information, or when required information or features are difficult to find or utilize. These and other occurrences can have a severe impact on the user's performance and can generate high levels of arousal. According to Bessiere et al., arousal is the key component of frustration – too little or too much arousal inhibits optimal performance. Whether frustration will be transformed into other (more complex) emotional states will depend on the extent of control the individual feels they can exert over the situation. If individuals feel capable of resolving the problem themselves, or obtain timely assistance to resolve it, the sense of frustration may be acute but not develop into other emotions, such as anger, disappointment, disillusionment, and despair. In sum, ''frustration per se may be maladaptive if no solution to the problem can be found or the path to the solution involves many obstacles'' (Bessiere et al., 2006, p. 945). Similarly, a cycle of failure leading to frustration leading, in turn, to further failure can emerge, thereby increasing the levels of dysfunctional arousal and psychological strain experienced by the user.

Facilitating Employees' engagement with HR Information system:

Modern workplaces require employees to successfully manage many different forms of ICT, including basic computing packages (such as word processing or data analysis programs), the Internet, email, and other applications. These technologies involve multitasking skills and at least some practical understanding of the technology. As noted earlier, effective utilization of ICTs benefits organizations via potential gains in efficiency and productivity and enables work to become more collaborative and transparent. Nevertheless, the technological advantages afforded by ICT will not be fully realized unless employees are able and willing to use these systems. Previous research has indicated that over 50% of organizations encounter employee resistance toward new technology implementation (Venkatesh, Morris, Davis, & Davis, 2003). It is crucial, therefore, to examine the processes that underlie user acceptance of technology, in terms of both facilitating variables and inhibitors. In this section we review some of the key facilitators of engagement with ICTs. Much of the research on the key facilitators of ICT engagement has derived from a general perspective referred to as the ''technology acceptance model'' (TAM; Davis, 1989), which describes the relationships between users' perceptions of the usefulness of the technology, its perceived ease of use, and their acceptance of it. The TAM is based on earlier social– psychological theories including the theory of reasoned action (TRA) developed by Fishbein and Ajzen (1975). The TRA suggests that behavior is directly influenced by one's behavioral intentions, which in turn are preceded by attitudes toward the activity and subjective norms concerning its desirability. For instance, if a person believes that using a blackberry or other ICT device will provide greater accessibility to important work-related information, and also that other people (such as one's supervisor) also favor the usage of this technology, he or

she will probably develop a motivation and behavioral intention to use ICT and will ultimately engage with this technology. In addition to the above, Fishbein and Ajzen (1975) also differentiated affect from cognition and conation. Whereas cognition refers to the individual's knowledge and beliefs about the technology, affect denotes the person's feelings about and evaluation of the technology, and conation reflects their behavioral intentions. These concepts have been valuable in distinguishing between various components of the process-linking attitudes to behavior.

CONCEPTUAL FRAMEWORK



The above framework justifies the process of accepting the HR information system among the employees. In a more recent paper, Venkatesh and Bala (2008) have provided an updated version of the TAM, which expanded the range of contributors to the perceived ease of use of technology. The updated TAM incorporates variables such as perceived self-efficacy, perceptions of external control, and computer anxiety, which are discussed in more detail below,

as well as perceived enjoyment of technology, as potential antecedents of perceived ease of use. Venkatesh and Bala argued that the revised TAM provides a model that can be used as a lever in research on the effects of technology implementation. Organizational factors also play a role in either facilitating or inhibiting worker adoption and use of ICT. Later we discuss some of the ways in which these factors can operate as ‘‘road blocks,’’ but here we focus on organizational factors that have been found to enhance attitudes toward and usage of the technology, along with workers’ well-being. Perhaps the two most prominent of these organizational-level factors are (a) training and (b) support for ICT users. The literature in this field has also described the impact which organizational culture and climate can exert on worker attitudes and behaviors.

CONCLUSION

In conclusion, the study have offered an overview of some key contributors to worker engagement with HR information system, and their relationships with psychological health and well-being. We began with a discussion of techno-stress, a phenomenon attributed to the rapid development of new technologies and people’s psychological reactions to these technologies. This was followed by an outline of two key reactions – technological anxiety and frustration – which have been frequently identified among workers, along with feelings of information overload that can arise from increased accessibility to large amounts of information and the concomitant difficulty of distinguishing between information which is relevant and that which is peripheral to one’s work performance. Investigations of techno-stress and its components have typically examined relatively short-term reactions to technological change, and more research is required to investigate longer-term affective and behavioral reactions, especially issues such as exogenous depression that may (as suggested earlier) occur when a person experiences ongoing anxiety and frustration in using ICT. These longer-term effects may be especially debilitating and damaging to a person’s subjective health and well-being, and may diminish their ability to engage with technology and to utilize it optimally in their job performance. Exploration of longer-term impacts of ICT needs to be a priority for future research.

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