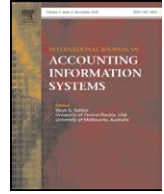




Contents lists available at ScienceDirect

International Journal of Accounting Information Systems



Investigating the effects of computer mediated interruptions: An analysis of task characteristics and interruption frequency on financial performance

K. Asli Basoglu^{a,*}, Mark A. Fuller^b, John T. Sweeney^c

^a Washington State University, Department of Information Systems, PO Box 644743, Todd 442, Pullman, WA 99164, United States

^b University of Massachusetts Amherst, Isenberg School of Management, 121 Presidents Drive, Amherst, MA 01003, United States

^c Washington State University, Department of Accounting, PO Box 644729, Todd 242, Pullman, WA 99164, United States

ARTICLE INFO

Article history:

Received 1 August 2009

Accepted 15 September 2009

Keywords:

Interruption

Performance

Task

Cognitive state

Decision making

Frequency

Complexity

ABSTRACT

Financial and accounting tasks require high levels of concentration as well as cognitive capacity. Today, advanced technology can help facilitate the effective and efficient completion of such tasks. At the same time, however, these same technologies can interrupt work flow and create work-related stress, thus having a deleterious effect on task performance. These interruptions can be characterized across a number of different dimensions, including frequency, complexity, duration, and relevance to the primary task, to name a few. This study examines the effects of interruption frequency, task complexity, and individual characteristics on cognitive load and subsequent decision-making performance on financial tasks. As hypothesized, the results indicate the significant influence of interruption frequency and order of task complexity on cognitive load which influences performance. This research has implications on the design and use of information systems by accounting professionals in order to reduce potential negative effects.

© 2009 Elsevier Inc. All rights reserved.

1. Introduction

Technology continues to change the nature of the work for many accountants and auditors. Software can be used to organize and analyze data employed in financial analysis, reduce the amount of tedious manual work associated with data management, enhance decision making, and improve access to important data sources. Technology also allows accountants and auditors to be more mobile and

* Corresponding author.

E-mail address: kab@wsu.edu (K.A. Basoglu).

connected, exchanging information with clients as well as with their home office. However, these technologically enhanced work environments also create the opportunity for interruptions, in the form of phone calls, instant messages, e-mail notifications, task reminders, or incoming messages from clients. Even though existing research has shown that some interruptions may help improve performance (e.g. Yerkes and Dodson, 1908; Kahneman, 1973; Cohen, 1980), in other situations interruptions may also force accountants and auditors to multitask and shift attention from a primary financial task to another task (e.g., responding to an urgent e-mail message or a call on their Blackberry), resulting in decreased cognitive capacity and performance (Kahneman, 1973; Laird, Laird, and Fruehling, 1983; Woodhead, 1965; Speier et al., 1999).

Interruptions can vary on a variety of dimensions, including their frequency, duration, complexity, timing, or content (Speier et al., 2003). Possible consequences of interruptions include unsustainable mental attention and effort (Baecker et al., 1995), rationed resources (Baron, 1986), broken task flow (Bederson, 2004), impaired task processing (March, 1994) and task accuracy (Cellier and Eyrolle, 1992; Schuh, 1978), and increased time spent on task (Schiffman and Griest-Bousquet, 1992).

Although workers involved in financial and accounting tasks are exposed to interruptions, behavioral research in accounting has not yet systematically addressed how interruptions affect performance. To address this gap in the literature, we first review research on financial task performance and then hypothesize and test the effects of interruption frequency, cognitive load, and individual characteristics on decision outcomes. We then discuss the results of our research, and finally discuss the implications of this study for future research.

2. Prior research on financial task performance

Previous research on financial task performance has mostly concentrated on either task characteristics, such as complexity, or on individual characteristics, such as domain knowledge, gender, cognitive ability, cognitive fit, and information load. To examine this topic more thoroughly, we review existing research and identify gaps in this area of research.

The impact of task characteristics on performance has been analyzed by various researchers. Asare and McDaniel (1996) argue that when the underlying task is complex, the review process used to detect and correct any biases or errors in judgments and decisions made by inexperienced auditors has more steps, thus requiring more processing time on the part of the subject. Hence, they argue that task complexity is likely to increase time spent on set-up work as well as cognitive effort invested in the review task. Campbell and Illgen (1976) have shown a direct positive effect between task complexity and performance; however, Shapira (1989) has argued that this relation is moderated by various factors. For example, workers with low goal commitment had lower performance when the task was complex (Martin and Manning, 1995) or when they were under time pressure (Payne et al. (1993). Furthermore, Blocher et al. (1986) examined the effect of report format (graphic, tabular) and task complexity on the accuracy and bias of internal auditors' risk judgments and found a significant interaction between report format and task complexity for both decision accuracy (defined as ability to discriminate between high and low risk reports) and bias (defined as the propensity to report observing a high risk report).

Other researchers have analyzed the influence of individual characteristics on performance. For instance, O'Donnell et al. (2005) examined how procedural knowledge and outcome expectations interact with task complexity when tax professionals develop recommendations for clients. Their results suggest that outcome expectations about whether a position can be defended are positively associated with aggressive recommendations. As complexity increases, professionals with more procedural knowledge are shown to favor less aggressive recommendations and rely more heavily on their outcome expectations. Furthermore, while Duncan et al. (1989) and Newberry et al. (1993) argued that the domain knowledge that professionals develop through experience may make their decisions either more aggressive or more conservative (Cloyd, 1995; Helleloid, 1989; LaRue and Reckers, 1989), Kaplan et al. (1988) and Schisler (1994) found no association between knowledge and judgment. Also related to the relationship between knowledge and performance, Bonner (1990) showed that task specific knowledge aided the performance of experienced auditors in both cue selection and cue weighting components in analytical risk assessments.

Download English Version:

<https://daneshyari.com/en/article/1005540>

Download Persian Version:

<https://daneshyari.com/article/1005540>

[Daneshyari.com](https://daneshyari.com)