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**Digital Reporting Formats and Users of Financial Reports:  
Decision Quality, Perceptions and Cognitive Information Processing in  
the Context of Recognition versus Disclosure**

**A Thesis Submitted in Partial Fulfillment of the Requirements**

**for the Degree of**

**DOCTOR OF PHILOSOPHY**

**in**

**Accountancy**

**Massey University**

**Erlane K. Ghani**

**2008**



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## CANDIDATE'S DECLARATION

This is to certify that the research carried out for my doctoral thesis entitled: "*Digital Reporting Formats and Users of Financial Reports: Decision Quality, Perceptions and Cognitive Information Processing in the Context of Recognition versus Disclosure*" in the School of Accountancy, Massey University, Palmerston North Campus, New Zealand has not previously been accepted in substance for any degree and is not being concurrently submitted for any other degree. This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by footnotes giving explicit references. A list of references is appended. . .

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## MEMORANDUM

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TO: Doctoral Research Committee

FROM: Erlane K Ghani and Professor Fawzi Laswad

DATE: 1 August 2008

SUBJECT: Supervisor and Candidate Declaration

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*“Digital Reporting Formats and Users of Financial Reports: Decision Quality, Perceptions and Cognitive Information Processing in the Context of Recognition versus Disclosure”*

We verify that:

- i. Reference to work other than that of the candidate, has been appropriately acknowledged;
- ii. Research practice, ethical and genetic technology policies have been complied with as appropriate.

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Professor Fawzi Laswad



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TO: Doctoral Research Committee

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DATE: 1 August 2008

SUBJECT: Supervisor's Declaration

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I confirm that Erlane K. Ghani has pursued the doctoral course in accordance with Massey University's doctoral regulations.

Professor Fawzi Laswad

## ABSTRACT

The evolvement of digital reporting has changed the way financial information is prepared and disseminated (Debreceeny and Gray, 2001). Previous research has shown that digital reporting has increased, particularly in the last five years, and this usage is characterised by greater volumes of business and financial information over that traditionally provided in print-based mode (Smith, 2003). The new opportunities and benefits offered by digital reporting are matched by challenges and implications not only for the preparers and auditors but also for users. It is expected that in the near future, financial reporting will move entirely from the primarily print-based mode to digital-based mode as the primary information dissemination channel (Oyelere et al., 2003; Fisher et al., 2004).

Research in the area of digital reporting has been conducted in the past decade. Within this research, a considerable number of issues have been raised. These issues relate to various parties, such as policy makers, preparers, auditors, system designers and users. While several research questions and hypotheses concerning these parties have been posed and investigated, most of the research questions and hypotheses have been formed from a preparers' perspective, leaving the examination of issues from a users' perspective largely unexplored.

This study focuses on users. It examines the effect of presentation formats on decision makers' performance in relation to decision quality, perceptions and cognitive information processing in the digital reporting environment. It aims to extend the digital reporting literature.

This study extends the existing body of knowledge on digital reporting environment in several ways. First, this study examines the effect of presentation formats on the quality of users' decision making. This study follows Kleinmuntz and Schkade (1993) who described 'decision quality' in the context of two cost-benefit dimensions in relation to decision makers' cognitive processes, namely decision accuracy and cognitive effort. Decision accuracy reflects the ability of a strategy to produce an accurate outcome while cognitive effort reflects the total cognitive expenditure incurred in completing a task. Second, this study examines users' perceptions of three digital presentation formats: PDF, HTML and XBRL. This study compares subjects' perceptions of usefulness and ease of use of the three presentation formats with their actual outcome. It also includes examining whether perceptions are an important factor in influencing preferred presentation format. Finally, this study examines whether digital presentation formats address the concern over functional fixation in the accounting context of 'recognition versus disclosure' in the reporting of financial information.

This study used public accounting practitioners in New Zealand as participants. Sixty two subjects participated in the experiment, which involves an experiment exercise and a post experiment questionnaire.

The results indicate that presentation formats impact on decision accuracy. This finding is consistent with previous studies conducted using non-digital presentation formats such as tabular and graphical in the psychology and information systems literature (Stock and Watson, 1984; Dickson et al., 1986; Iselin, 1988; DeSanctis and Jarvenpaa, 1989; Mackay and Villareal, 1987; Hard and Vanacek, 1991; Stone and Schkade, 1991; Anderson and Kaplan, 1992; Bricker and Nehmer, 1995; Ramarapu et al., 1997; Frownfelter-Lohrke, 1998; Almer et al., 2003). The results, however, indicate that presentation formats do not impact decision makers' cognitive effort. These findings suggest that preparers, standard-setters and regulatory bodies should recognise that presentation format impacts on users' decision making processes and select appropriate formats that lead to improvement in decision making.

Additionally, the results indicate that users' perceptions of the usefulness and ease of use of the reporting technologies are similar across the three presentation formats. The results also show that users' perceptions do not necessarily correspond to actual performance. Users' perceptions are found to influence their preferred presentation format. The findings of this study provide useful insights on users' perceptions, performances and preferences of the digital presentation formats. Such results provide a holistic and comprehensive view of the importance of perceptions and the effect of presentation formats on decision makers' performance. This is particularly relevant since if more advanced forms of digital reporting are to be encouraged, then there is also the need for users to be made more aware of the benefits to be gained from the different forms of presentation.

Finally, the results show that of the four recognised stages of information processing (i.e. acquisition, evaluation, weighting and judging information), functional fixation is found to only exist at the judgment stage. However, the effect of presentation format is only significant at information evaluation stage. The results indicate that the interaction between presentation formats and placement of information does not affect decision makers' information processing. This suggests that presentation formats do not solve the concern about recognition versus disclosure (functional fixation) in information processing stages. These findings are not consistent with Hodge et al. (2004) but are consistent with Luft and Shields (2001) who suggest functional fixation could not be alleviated because the accounting itself would affect the allocation of people's attention.

This study extends the literature on presentation format by examining the quality of decision making arising from the use of different presentation formats in a digital reporting environment. It provides evidence that users' perceptions of ease of use of a presentation format do not necessarily correspond to their actual performance (cognitive effort) once a particular task has been performed. This study also provides evidence that the acceptance of a technology is highly dependent on the perceptions of that technology. Therefore, limited knowledge and appreciation of the capabilities of a technology may have the undesired effect of deterring use of the technology although it may improve performance.

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*“While much research has been conducted concerning accounting content of financial statements, limited research has been conducted in the area of presentation. One reason the research has been limited is because many of the technologies currently available to present financial statements were not available until recently”.*

Dull et al., 2003; p. 185.