

AN EXAMINATION OF THE POTENTIAL IMPACT OF RISK ON VIABILITY ASSESSMENTS FOR FINANCIALLY DISTRESSED FIRMS: THE CASE OF PROFESSIONAL USER GROUPS OF COMPANY ACCOUNTS

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ABSTRACT

Risky conditions in conjunction with individuals' attitude to risk would normally lead to risk-averse behavior (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980). In this research, risk-averse behavior (the dependent variable) relates to the "going-concern" opinion of financially distressed firms. A logistic regression model used as predictors of risk measurements (risky conditions and risk attitude) correctly predicts 97.6% of the non-going concern opinions. In conclusion, the empirical evidence demonstrates a subtle impact of risk on individuals' behavior despite the fact that distinct statistical tests do not fully support this.

Keywords: going-concern, risk, auditors, financial distress, bankers, insolvency practitioners

INTRODUCTION

Viability assessments of financially distressed firms or otherwise their "going-concern" status are inhibited by an innate problem as they can be self-fulfilling (Barnes, 1984; Cohen, 1978; Louwers, Messina, & Richards, 1999) despite some contrasting views (Citron & Taffler, 1992, 2001; Nogler, 2004). Furthermore, researchers have shown that auditor "going-concern" or otherwise opinion does not correspond with company status (Altman & McGough, 1974; Taffler & Tseung, 1984; Venuti, 2004). To complicate matters further, empirical evidence on auditor *competence* and *independence* has been contradictory (Barnes & Huan, 1993; Citron & Taffler, 1992; Davis, Ricchiute, & Trompeter, 1993; Lys & Watts, 1994; Ruiz-Barbadillo, Gomez-Aguilar, De Fuentes-Barbera, & Garcia-Benau, 2004; Blay, 2005). Therefore, the apparent *audit failure* to distinguish between viable and non-viable firms might be attributed to other factors such as corporate governance information (Parker, Peters, & Turetsky, 2002) or to behavioral factors (Kida, 1980; Huan, 1989; Barnes & Huan, 1993).

Further, attitude theories of behavior suggest that *risk aversion* together with *risky* conditions lead to *risk-averse* behavior (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980).

Consequently, this study examined via a questionnaire the potential impact of individuals' perceived risks (risky conditions) and risk attitudes (risk aversion) on their "going-concern" opinions – risk-averse behavior (Newton, 1977; Furnham, 1992; Mischel, 1993; Atkinson, Atkinson, Smith, Bem, & Hoeksema, 1996). It addresses three professional user groups of company accounts actively involved with viability assessments, namely auditors, bankers and insolvency practitioners (IPs).

At the outset, auditors appear to be the only group involved with "going-concern" assessments either under normal conditions or under conditions of financial distress. However, interviews with practitioners, initially with auditors and later on with bankers and IPs, revealed that bankers and IPs are also involved with this process. Bankers are assessing the viability of their clients when granting a loan, or alternatively, when an existing client is facing financial difficulties (Grusd, 2006). Similarly, IPs are assessing the viability of clients already in distress as their role is to determine the insolvency procedures (if any), that needed to be followed. Therefore, the context of financial distress justifiably appears to be a common denominator for examining and/or comparing the three groups. To the best of the author's knowledge, IPs are examined as a user group for the first time in this study. Further, bankers and auditors are examined (via a postal questionnaire) on these issues also for the first time. In essence, the originality of this study stems from the nature of the issues examined on these three groups including the methodology applied (questionnaire). Further, data is collected at an individual group level which can also be analyzed at a collective group level with the possibility of performing between-group comparisons.

Results provide an insight regarding the nature of individuals' decision-making process, implying ways to improve practice but also the basis for further research.

LITERATURE REVIEW

Research on "going-concern" and/or viability assessments may be classified under (a) corporate failure prediction studies and (b) "going-concern" opinion studies. The former relates to numerous statistical models classifying firms as failed or otherwise, fraud with methodological and theoretical shortcomings. Specifically, most of these models were criticized for being theoretical as variable selection was based on their statistical significance (Barnes, 1984).

Furthermore, sample selection, statistical techniques applied and the properties of financial ratios (predictor variables) are also critically discussed (Einsenbeis, 1977; Whittington, 1980; Barnes, 1982, 1984, 1986, 1987; Zmijewski, 1984). Evidence suggests that bankruptcy prediction models might not be an appropriate proxy for "going-concern" assessments in creditor-oriented countries as opposed to debtor-oriented ones (Brian, Tiras, & Wheatly, 2005; Kausar, Taffler, & Tan, 2006; Kuruppu, Laswad, & Oyeler, 2003; Claessens & Klapper, 2005). Data mining techniques have also been applied in this context such as neural networks (NNs) and decision trees and proved to be more powerful for analyzing non-linear and interaction relationships. Hence, these techniques are considered (at least) supplementary to the traditional statistical "going-concern" prediction models (Koh, 2004).

"Going-concern" opinion studies are "behavioral" studies conducted under the auspices of the Human Information Processing (HIP) framework (Menon & Schwartz, 1987; Kennedy & Shaw, 1991; Chen & Church, 1992; Hopwood, McKeown, & Mutchler, 1994; Nogler, 1995; Guiral & Esteo, 2006). Drawn from psychology, the HIP framework provides the underlying theory for those studies examining individuals' decision-making process under conditions of uncertainty. However, the word behavioral may be a misnomer, as these studies do not actually examine behavioral factors but rather, the financial indicators that individuals use to reach a "going-concern" or otherwise decision. In brief, behavioral studies or, "Judgment and Decision-Maker" studies (Trotman, 1996) aim at developing a theory of individuals' perceptions of financial distress. It is noteworthy that, researchers adopting the cognitive approach (a competing paradigm), have provided useful insights in understanding and explaining individuals' judgment and final choice (see Ashton & Ashton, 1995; Libby & Lewis, 1977, 1982; Trotman, 1996).

In conclusion, studies on "going-concern" opinion decisions do not adequately capture the impact of behavioral factors on individuals' judgment with a few exceptions (e.g. Kida, 1980). Although cognitive research on auditors' judgment provides important insights on individuals' decision-making process nonetheless, these are not pertinent in this context. Furthermore, no studies examining insolvency practitioners have been conducted, or any other comparing the three groups on "going-concern" opinions. Therefore, the current research aims at filling a significant gap in the literature by examining the impact of risk factors¹ on the three groups' viability assessments for financially distressed firms.

¹ Measurement of these risk factors is explained later in the results section.

THEORETICAL BACKGROUND

As mentioned above, there exist two conflicting paradigms in the psychology domain namely the behavioral and the cognitive approach. The former predicts individuals' actions by observing their behavior whereas the latter attempts to obtain an in-depth understanding of their decision-making process by examining mental processes. The link between the two extremes is social psychology, which examines three core concepts namely, *cognition* (thoughts, beliefs, and attitudes), *emotions* (feelings) and *behavior* (actions) and how these are affected by the social environment (Furnham & Lewis, 1986).

As discussed earlier, behavioral factors may account for the discrepancy between "going-concern" opinions and company status. Furthermore, social psychologists (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980) provided the theoretical framework to explore the potential impact of risk on viability assessments namely the Theory of Reasoned Action. Specifically, the impact of risk on individuals' behavior may be examined using three (inter) related concepts: the interaction of (a) risk aversion (attitude) and (b) risky conditions (beliefs/thoughts) leading to (c) risk-averse behavior (action i.e., "going-concern" opinion or otherwise). Diagrammatically this is depicted as in Figure 1.

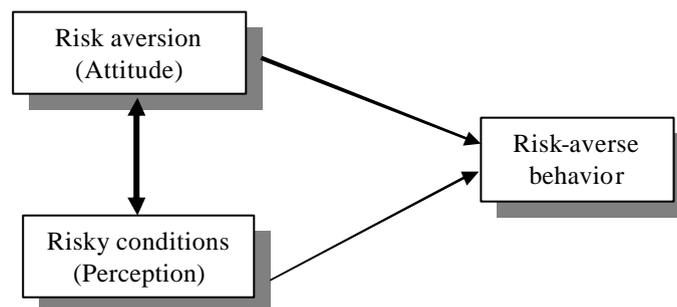


Figure 1. Risk attitudes, perceptions and behavior

Source: Adopted from Fishbein & Ajzen (1975), Ajzen & Fishbein (1980)

Newton (1977) also argued that individuals' judgment is a function of the uncertainty surrounding the decision situation and their risk aversion. Risk aversion exemplifies individuals' willingness to accept the risk of making an incorrect decision whereas uncertainty lies on individuals' perceptions of risk. Therefore, individuals' actions would reflect their perceived risk; for example, auditor perceived risk would lead to a qualified audit report. On the other hand, risk attitude may account for any inconsistent behavior, e.g., a financially distressed firm classified as viable.

Finally, as decision-makers in this study represent three different groups, comparisons amongst them regarding the impact of the above (risk) factors in reaching a "going-concern" or otherwise, opinion are performed. It must also be emphasized that this study is conducted in the context of assessing financially distressed firms. As mentioned earlier, this is applied in order to have a common denominator to compare the views of the three groups, as normally IPs would only assess the viability of financially distressed firms.

RESEARCH HYPOTHESES

The crux of this research is that company viability assessments are influenced by behavioral factors. Further, psychology literature suggests that individuals' characteristics (personality) may affect or even bias their decision (e.g. Kline, 1993). This research is delimited to the analysis of individuals' risk aversion (as a personality characteristic) including their perceived risks involved as critical factors in the context of "going-concern" assessments. Figure 2 depicts the presumed relationship between these constructs based on which the hypotheses are developed (adopted from Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980).

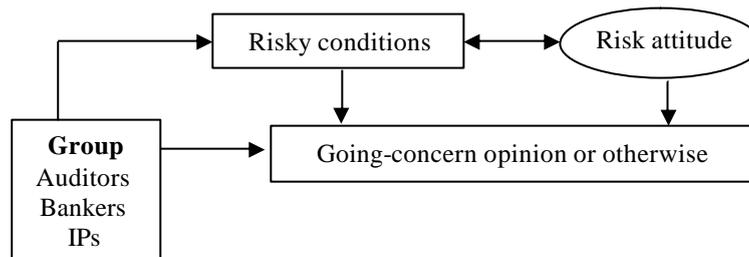


Figure 2. The impact of risk on individuals' "going-concern" opinions

The model is drawn using the path diagram terminology and it may be tested using structural equation modeling. However, as this research is exploratory and the model requires a strong underlying theory, it would be premature to test it at this stage (Tabachnick & Fidell, 1996). Consequently, the constituent parts of the model are tested separately under the alternative hypotheses, followed by a logistic regression model. Results then provide the basis for the models further development and/or refinement.

Differences are expected to exist between the three groups attributed to: (a) the different roles they assume (Jensen and Meckling, 1976), (b) the different risks they undertake, and (c) the different backgrounds they have leading to different risk attitudes. For example, auditors are presumed to preserve their clients' interests (Citron & Taffler, 2001) and bankers are preserving their bank's

interests (Raby, 1992). On the other hand, IPs appear to be more independent in this context as they are only accountable to the courts (Lingard & Haag, 1992). Consequently, bankers and auditors are undertaking probably higher risks than the IPs because their jobs and career prospects are at stake. For example, for a Type 1 error, auditors risk lawsuits from stakeholders including damages to their reputation for failing to act in the public interest (Mong & Roebuck, 2005). On the other hand, for a Type 2 error, auditor risks involve deteriorating relationships with clients and adverse impact on their reputation (Nogler, 2006).

Research hypotheses examine individual group differences on risk factors and their impact on "going-concern" opinions including group comparisons. Consequently, the following hypotheses are set:

- H₁: There are statistically significant differences between the three groups on their perceived risk in the context of their "going-concern" assessments.
- H₂: There are statistically significant differences between the three groups on their risk-attitude.
- H₃: There are statistically significant differences between the three groups on their perceived risk and its relation to their "going-concern" opinion.
- H₄: There are statistically significant differences between the three groups on their risk-attitude and its relation to their "going-concern" opinion.

METHODOLOGY

The absence of (accounting) theories on "going-concern" assessments and/or corporate failure prediction of financially distressed firms triggered the need to conduct exploratory research interviews (Deshpande, 1983). These were conducted at the start of this research including the stage of the questionnaire design and its piloting. Consequently, interview results (with 13 practitioners) served the following purposes (see Sieber, 1973):

- (a) Confirmed the relevance and the importance of company viability assessments (particularly under conditions of financial distress) not only for auditors which is the obvious group but also, for bankers and insolvency practitioners and therefore, their inclusion in this study.
- (b) Determined the critical issues to examine particularly the importance of behavioral factors in this context.

- (c) Supported the development of the research hypotheses.
- (d) Supported the questionnaire design including its piloting.

However, the hypotheses set were tested solely using data collected via a postal questionnaire. This triangulation of research approaches or "*middle-range thinking*" (Laughlin, 1995) was performed acknowledging the complementary attributes of these two competing paradigms which were used to improve the quality of the research design (Brannen, 1992). Further, the careful drafting and piloting of the questionnaire eliminated the risk of non-response bias and the probability of receiving response sets of *acquiescence* (Aiken, 1997; Anastasi & Urbina, 1997). It also enhanced the generalizability, the *face* and *content* validity of the survey results. ANOVA procedures were also performed on important survey measurements comparing the alternative sets of responses and confirming the absence of non-response bias.²

The questionnaire was sent to representatives of auditors, bankers and insolvency practitioners in the UK. The sampling frame for the auditor population was the directory of practising auditors issued by ICAEW and ACCA whereas, for the IPs population was the Insolvency Service's directory of IPs. Systematic sampling was applied for auditors and IPs using probability sample design (Nachmias & Nachmias, 1996). A sample of 300 auditors and 300 IPs formed the mailing list for these two groups. On the other hand, non-probability sampling was used for bankers due to both the lack of a list of banker names (sampling frame) and bankers' inaccessibility. Therefore, individual bank managers at major clearing banks in Midlands, Yorkshire and London were contacted to distribute an agreed number of questionnaires (90) to their colleagues at various seniority levels and areas of specialization. This ensured an adequate sample in terms of geographical spread, seniority and specialization coverage. The control over the number of questionnaires sent out to bankers provided an estimate of the response rate but also of the non-response bias. Finally, as non-probability sampling was used for bankers, a small sample size was chosen to eliminate any inherent bias in the survey estimators (Kalton, 1983).

The response rates for auditors and IPs was 22% (including questionnaires returned uncompleted) and for bankers 39% (no uncompleted questionnaires). These are satisfactory considering similar surveys (e.g. Robbie, 1993). Bankers' response rate was high strengthening the robustness of the results and offsetting any apparent limitations involved in the non-probability sampling process adopted. It is noteworthy that, coding the reminder questionnaires sent to bankers

² Please contact the author for additional information.

achieved zero response rate providing contradictory evidence to Kalafatis and Blankson (1996).

Table 1
Demographic Characteristics of the Respondents

	Age	Gender*		Education*			Company size			Years at current post	Years at previous post(s)
	Mean	M (%)	F (%)	P (%)	UP (%)	PP (%)	S (%)	M (%)	L (%)	Mean	Mean
Auditors	41–45	85	15	47	40	6	83	10	7	6–10	6–10
Bankers	36–40	87	9	66	21	4	64	4	32	0–5	0–5
IPs	41–45	94	6	47	43	6	65	25	10	11–15	6–10

Notes: M = male; F = female; P = professional; UP = undergraduate & professional; PP = postgraduate & professional; S = small; M = medium; L = large
*If total <100% missing values apply

As demonstrated above, the profile of the respondents confirms the sample's representativeness and the ability to draw generalizations from the results. Specifically, the majority (85% or above) of the respondents are male with an average age of mid-forties and an extensive experience (over ten years) except bankers. All of them hold a professional qualification whereas, a substantial proportion (40% or above except bankers) are also educated at an undergraduate level. A small but important minority (6% for auditors and IPs) also holds a postgraduate qualification.

It should be noted that as this is an attitude survey, questions are set using a 5-point Likert-type scale (Oppenheim, 1992; Riley, Wood, Clark, Wilkie, & Szivas, 2000). The use of multiple questions to measure the same item enhances the reliability of the results. However, this research forms part of a larger survey for which, the *reliability* and the *validity* or otherwise the robustness of its results are statistically confirmed. For example, Cronbach's alpha on risk attitude is –0.81 using two items and 131 cases (Nunnally, 1978; Hair, Anderson, Tatham, & Black, 1995). Due to practical considerations, alternative methods for establishing the reliability of the results were abandoned. The *predictive validity* of the survey results were also confirmed using the logistic regression model³ (Constantinides, 2002).

The data analysis was performed first by using descriptive statistics on the variables examined; however, in order to keep the paper brief and concise these results are not included. Thereafter, the hypothesis testing was performed using

³ Please see next section.

non-parametric statistics (Siegel & Castellan, 1988) as the data violated the normality assumption (K-S Lilliefors test).

EMPIRICAL RESULTS

Individuals' risk-averse behavior, that is "going-concern" opinion was measured using the variable "*a financially distressed firm is not a going-concern*" measured originally on a 5-point Likert-type scale and re-coded into a dummy variable. Their perceived risk (risky conditions) was measured using the variable "*a financially distressed firm is risky*". Both of these variables were derived from the interviews. Individuals' risk attitude was operationalized using Craig and Ginter's (1975) factor (scale) (as in Bearden, Netemeyer, & Mobley, 1993):

- "*I like to take a chance*"
- "*I like people who are a little surprising*" and
- "*When it comes to taking chances, I'd rather be safe than sorry*"

Descriptive statistics showed that individuals are risk-averse and perceive that there are risks involved in the context of assessing the viability of financially distressed firms. Pearson's Chi-Square test was also performed to test the independence between group identification and responses (Norusis, 1993). Results showed group consensus on these variables except for the risk attitude variable "*I like to take a chance*". Therefore, hypothesis H₂ is supported but not hypothesis H₁. Chi-Square test was performed on each group separately to determine statistically significant individual group responses on their risk attitude, "*I like to take a chance*". Although Chi-Square tests are statistically significant at 1% for all groups, the pattern of the responses (Chi-Square test residuals⁴) is only similar for auditors and bankers. Specifically, auditors and bankers disagreed that they like taking chances whereas IPs are less categorical about it. It is noteworthy that there was one response from an IP on the "strongly agree" category. Again, pair-wise group comparisons were also performed using Pearson's Chi-Square test to determine between which groups the differences are significant. Results confirm a consensus between auditors and bankers but not between them and IPs on this issue.

⁴ Chi-Square test residuals, represent the difference between observed and expected frequencies assuming that, each category has equal chances of occurrence (Norusis, 1993).

Table 2
Pearson's Chi-Square Test and Chi-Square Test on Individuals' Risk Attitude, Perceived Risk and Risk-Averse Behavior

Pooled group sample			
Variable	Pearson's Chi-Square test		
<i>Risk attitude</i> – Take chances	15.78**		
<i>Risk attitude</i> – Safe than sorry	7.44		
<i>Risk attitude</i> – Like surprises	9.80		
<i>Perceived risk</i> – Financially distressed firm is risky	4.19		
<i>Risk-averse behavior</i> – Financially distressed firm is not a going-concern	5.74		
Individual group responses			
	Auditors' χ^2	Bankers' χ^2	IPs' χ^2
<i>Risk attitude</i> – Take chances	15.33*	10.52*	27.04*
Pair-wise group comparisons			
	Auditors vs. Bankers Pearson χ^2	Auditors vs. IPs Pearson χ^2	Bankers vs. IPs Pearson χ^2
<i>Risk attitude</i> – Take chances	1.79	10.32**	11.42**

Notes: * Significant at 1%
 ** Significant at 5%

Next, Spearman's rank correlation coefficients (SRCC)⁵ were estimated between individuals' perceived risks and risk attitudes with their "going-concern" opinion to test hypotheses H₃ and H₄. Results showed that for neither group, risk attitude was correlated with their "going-concern" opinion reinforcing the quality of their decision (Constantinides, 2001). Although bankers' perceived riskiness was significantly correlated (30%) with their "going-concern" opinion, this finding should not raise any concerns as this is normally expected. In brief, hypothesis H₃ is supported whereas hypothesis H₄ is not.

Finally, using the "going-concern" opinion dummy as the dependent variable, a logistic regression model was developed with an overall correct classification of 73.9% but with classification for the "non-going-concern" of 97.6%. The model was developed using forward stepwise selection (conditional) and after controlling for the demographic variables, i.e., age, gender, group identification, education and years of experience. This was performed in order to avoid results being biased due to these variables enabling us to have a clear indication of the impact of risk factors in this context.⁶

⁵ SRCC was applied as data does not satisfy the normality assumption (Norusis, 1993: 297).

⁶ Controlling for the impact of factors outside the interest of the study is a standard practice. For example, readers may refer to Citron and Taffler's (2004) controlling for the impact of changes in the economic environment.

Table 3
Logistic Regression Model of "Going-Concern" Opinions using Stepwise Forward Selection on Individuals' Perceived Risk and Risk Attitudes after Controlling for Demographic Variables

Variable	B	S.E.	Wald	d.f.	Sig.	Exp(B)
<i>Demographics – Age</i>	-0.200	0.115	3.021	1	0.082	0.819
<i>Perceived risk – Financially distressed firm is risky</i>	0.286	0.158	3.266	1	0.071	1.331
<i>Risk attitude – Like chances</i>	-0.074	0.199	0.141	1	0.707	0.928
<i>Risk attitude – Safe than sorry</i>	-0.301	0.198	2.315	1	0.128	0.740
<i>Risk attitude – Like surprises</i>	0.112	0.183	0.371	1	0.542	1.118

The resulting model included risk attitude measurements, perceived risky conditions and individuals' age as independent variables. In other words, the final model using the forward stepwise selection method included only one demographic variable as being significant i.e., the age of the respondents.

Unfortunately, the interpretation of logistic regression coefficients was not as straightforward as the ones of a linear regression. In essence, the logistic regression model can be rewritten in terms of the odds of an event occurring i.e., the ratio of the probability of an event occurring to the probability that it will not occur (Norusis, 1994). Therefore, the probability of having a "going-concern" opinion, i.e., $P(gc) = 1/1+e^{-z}$ where, $z = -0.200$ (age) + 0.286 (perceived risk) – 0.074 (risk-chance) – 0.0301 (risk-safe) + 0.112 (risk-surprises). Thereafter, substituting values for these variables we can estimate the probability of having a "going-concern" opinion decision.

The Chi-Square test, which assessed model's goodness of fit, was significant at 1%. It should be noted the models weakness in correctly classifying "going-concerns" (21.6%). However, Type II error that is, failure to reject the null hypothesis that the company is a "going-concern" may be more serious than Type I error.

SUMMARY AND CONCLUSIONS

According to the Theory of Reasoned Action (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980), individuals' risk attitude in conjunction with risky conditions would lead to risk-averse behavior. This theory is examined in the context of viability assessments for financially distressed firms as performed by three professional user groups of company accounts, namely auditors, bankers and IPs. Taking the analogy that a financially distressed firm is risky, i.e., representing risky conditions, together with a measurement of individuals' risk attitude it is

expected that these two would lead a company being classified as a non-viable (risk-averse behavior).

The data was collected via a questionnaire on a representative sample of the above mentioned professional user groups of company accounts in the UK during 1998–1999 (approximately 140 cases). Results confirmed a group consensus regarding the risks involved in assessing the viability or otherwise, the "going-concern" status of financially distressed firms. Further, all three groups appear to be risk-averse. However, there exist some between-group differences regarding the degree of their risk aversion. Further, only bankers' perceived riskiness of the situation was positively related to their "going-concern" opinion whereas all three groups' risk attitude were not significantly correlated with their "going-concern" opinion. Nonetheless, using the risk measurements as independent variables in a logistic regression model, the latter correctly predicted 97.6% of the non-going concern opinions suggesting the formers' subtle impact in this context.

In conclusion, behavioral factors and particularly risk-related factors appear to be relevant in the context of "going-concern" assessments as one would normally expect. Further, logistic regression results confirm their subtle impact on auditors', bankers' and IPs' "going-concern" opinion decisions. Despite considering this finding as not alarming, it should trigger professionals' obligation to re-consider the impact of risk in their decision-making process in this context. Future research may re-examine these issues using alternative measurements of risk and/or the potential impact of other (intervening) behavioral factors on individuals' judgment before any solid conclusions can be drawn. The latter may involve individuals' potential use of heuristics or the application of personality scales (Kline, 1993).

Finally, it should be noted that results are preliminary in the sense that these issues are examined for the first time using a postal questionnaire. Further, results should be interpreted with care as one may question the sample's representativeness considering that 85% or above of the respondents are males. However, this argument may not be able to be defeded considering that banking and/or accountancy are male dominated professions (Flynn, Leeth, & Levy, 1996).

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