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## THE IMPACT OF EXPECTED OUTCOMES ON GOING-CONCERN OPINIONS: THE CASE OF AUDITORS, BANKERS AND INSOLVENCY PRACTITIONERS\*

By

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### Abstract

The evidence confirms that, auditors', bankers' and insolvency practitioners' expected outcomes of wrongly classifying a non-viable firm as viable, is more important than the opposite. However, there is no significant correlation between expected outcomes and individuals' "going-concern" opinions. Furthermore, individuals' perceived roles, risks, and risk attitudes are related to their expected outcomes suggesting a subtle impact of behavioural factors on individuals' decision-making in this context. Finally, a logistic regression model for "going-concern" classifications using all the aforementioned variables has an overall accuracy of 78.10%.

*Keywords: auditors, bankers, insolvency practitioners, going-concern, expectations, risk.*

### 1.0 Introduction

"Going-concern" assessments have been problematic due to the inability to determine the correctness or otherwise of a "going-concern" opinion decision. Barnes (1984) supports the notion of the self-fulfilling prophecy argument in

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this context whereas other researchers question its validity (Citron and Taffler 1992). Researchers' attempts to compare the nature of audit reports and subsequent company success or failure led to unwarranted conclusions regarding auditor lack of competence and / or independence (Altman and McGough, 1974; Taffler and Tisshaw, 1977; Taffler and Tseung, 1984). The empirical evidence on auditor *competence* and *independence* has been contradictory throughout the years (Firth, 1980; Simunic, 1984; Johnson et al. 1989; Citron and Taffler, 1992; Davis et al. 1993; Lys and Watts, 1994). Matsumura et al. (1997) provides a game-theoretic modeling approach in dealing with "going-concern" opinions focusing on auditor switching and the self-fulfilling prophecy. Others provide an alternative view in "explaining" *audit failures* by focusing attention on behavioural factors (Kida, 1980; Barnes and Huan, 1987, 1989 and 1993). The current research further explores this issue by looking at auditors' expected outcomes of their wrong "going-concern" or otherwise, opinion and its potential impact on their decision per se. Exploratory interviews revealed that not only auditors are involved with "going-concern" assessments but also, bankers and insolvency practitioners (IPs) particularly under conditions of distress. Therefore, the research hypotheses are based on group comparisons considering the differences in roles and risks that each group undertakes (Jensen and Meckling, 1976 and Fishbein and Ajzen, 1975 respectively). A conscious decision has been made to examine "going-concern" assessments at an individual level and not at a group level, considering the exploratory nature of this research (Tenbrunsel et al. 1996; Trotman, 1996).

Utilizing behavioural (psychology) theories, this study examines via a questionnaire individuals' expected outcomes of wrong "going-concern" assessments and their relation to "going-concern" opinion decisions (Vroom, 1964; Atkinson et al. 1996). Finally, it explores potential factors that might be influencing individuals' expectations such as their perceived roles (Jensen and Meckling, 1976; Jensen, 1986), perceived risks and risk attitudes (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980).

## 2.0 Literature Review

A considerable body of literature can be found on auditor "going-concern" opinions classified as behavioural (Mutchler, 1985; Menon and Schwartz, 1987; Kennedy and Shaw, 1991; Chen and Church, 1992; Hopwood et al. 1994; Nogler, 1995). These studies were conducted under the auspices of the "Human Information Processing" (HIP) framework (Brunswik, 1952, 1955). The latter examines the individual (decision-maker) who uses the information

available to predict certain events. However, researchers focused attention on individuals' choice of information cues to reach a decision without explicitly examining what influences judgment and choice. An alternative approach (under the HIP framework) utilizes cognitive theories to understand and predict individuals' judgment and final choice (see Ashton and Ashton, 1995; Trotman, 1996; Libby and Lewis, 1977, 1982 for extensive reviews).

Behavioural studies on bankers have also been conducted where banker subjects were provided with financial information and asked to predict corporate failure (Houghton, 1984; Casey, 1983; Houghton and Sengupta, 1984; Houghton and Woodliff, 1987). However, no studies examining insolvency practitioners have been conducted so far, nor any studies comparing the three groups strengthening the originality of this research.

Kida (1980) pioneered in demonstrating the importance of behavioural factors on auditor "going-concern" opinion decisions. He argued that although auditors do recognize that their client firms have "going-concern" problems however, they are reluctant to give a qualified opinion due to other considerations. The latter might involve individuals' expectations regarding the outcome of their qualification (see also Huan, 1989, Barnes and Huan, 1993). In addition, Altman (1982) examined the potential costs involved in Type I and Type II errors concerning auditors' "going-concern" opinion but without empirically testing auditors' perceptions of such costs (see also Altman 1983). Matsumura et al. (1997) provide a succinct review on auditor "going-concern" studies focusing on type I and II errors, auditor switching and auditor reporting behaviour.

Following the above, this paper further examines individuals' expected outcomes and their relation to "going-concern" opinion decisions. It also compares and contrasts the three groups providing an additional innovative element for this research. Finally, it examines potential (behavioural) factors that might be influencing individuals' expected outcomes such as their perceived roles and risks and their risk attitudes.

### **3.0 Exploratory Research Interviews**

The controversy surrounding "going-concern" assessments mainly due to the judgmental nature of the decision combined with the uncertainty involved regarding company future prospects after receiving an audit qualification led to preliminary semi-structured interviews with auditors. Auditors pointed that bankers and insolvency practitioners are also involved with "going-concern" as-

assessments particularly for firms under financial distress. Overall, thirteen interviews with representatives of the three groups were conducted between 1996 and 1998 guiding the development of the research hypotheses and the drafting of the questionnaire. Interviewees reinforced the view that, not only they are performing "going-concern" assessments but also that, their decision and consequent actions, are crucial regarding client-firm future prospects. They have also highlighted the importance of their expectations regarding the outcome of their decision in this context as being determinant for the latter. Finally, interview results generated a list of potential outcomes of "going-concern" opinion decisions that are relevant in distress situations incorporated in the postal questionnaire.

#### **4.0 Research Hypotheses**

The main thesis of this research is that "going-concern" assessments are largely a behavioural process (Barnes, 1984). Accordingly, the hypotheses set are based on the subtle impact of behavioural factors on individuals' judgement and final decision. In addition, group differences (if any) would again reflect mainly behavioural differences; therefore, the hypotheses are also reflecting this issue. Important differences are presumed between the three groups as they assume different roles and therefore they are accountable to different principals (Jensen and Meckling, 1976; Jensen, 1986). Further, because of differences in the roles that each group is undertaking they also assume different risks. For example, auditors face the risk of litigation and bankers the risk of incurring losses for the bank. These in turn may result to different attitudes to risk (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). Therefore, hypotheses are formulated based on differences between the three groups although the direction of those differences cannot be established considering the exploratory nature of this research. It must also be emphasized that, this study is conducted in the context of assessing financially distressed firms in order to have a common denominator to compare the views of the three groups.

Numerous studies were conducted generating corporate failure prediction models (e.g., Gentry et al. 1987; Lau, 1987; Ward, 1994; Lenard et al. 1995) and auditor "going-concern" opinion models (see earlier section). This, coupled with practitioners' propensity to determine the viability of their client firms as revealed from the interviews including potential group differences, leads to the following hypothesis:

*H1: There are statistically significant differences in the opinions of the three groups that a wrong classification of a non-viable firm is more important than the opposite.*

Interviewees' comments on the importance of their expectations regarding the outcome of their wrong "going-concern" opinion decision and its impact on their client firm's future prospects leads to the following hypothesis:

*H2: There are statistically significant differences between the three groups on their perceived consequences of a wrong classification of a viable / non-viable firm and its relation to their "going-concern" opinion.*

As discussed above, the three groups are undertaking different roles, which might be reflected in their expectations in this context:

*H3: There are statistically significant differences between the three groups on their perceived consequences of a wrong classification of a viable / non-viable firm and its relation to their perceived roles*

Individuals' different roles might also be reflected in their perceived risks as well as their risk attitudes (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). The potential impact of those factors on individuals' expected outcomes is also examined under the following hypotheses:

*H4: There are statistically significant differences between the three groups on their perceived consequences of a wrong classification of a viable/non-viable firm and its relation to their perceived risks.*

*H5: There are statistically significant differences between the three groups on their perceived consequences of a wrong classification of a viable/non-viable firm and its relation to their risk attitudes.*

## **5.0 Methodology**

Preliminary interviews were used as a facilitator of the research process given the exploratory nature of the latter (Deshpande, 1983). Therefore, the research hypotheses are based on both the extant literature but also, on the exploratory interviews. However, the empirical evidence for testing the hypotheses was solely obtained via a postal questionnaire. The questionnaire was sent to representatives of auditors, bankers and insolvency practitioners in December 1998. The sampling frame for the auditor population was the directory of practicing auditors issued by ICAEW and ACCA whereas, for the IP popula-

tion was the Insolvency Service's directory of insolvency practitioners. Systematic sampling was applied for auditors and IPs using probability sample design (Nachmias and Nachmias, 1996). A sample of 300 auditors and 300 insolvency practitioners 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 (ninety) 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, provides 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 is twenty two percent (including questionnaires returned uncompleted) and for bankers is thirty nine percent (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.

The majority (85%) of the respondents is male which is what one would expect as, all three professions are male-dominated. The average age of the respondents is mid-forties with relatively an extensive experience (over ten years) except bankers. All of them hold a professional qualification which is a normal requirement in these professions 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. Finally, although the majority of the respondents are dealing with small companies, a substantial proportion of bankers (32%) is dealing with large ones suggesting their high expertise considering their years of experience.

Cronbach's alpha on the consequences of wrong classifications of viable and non-viable firms is 0.89 and 0.87 respectively confirming the *reliability* of the results (Nunally, 1978; Hair *et al.*, 1995, 641). Due to practical considerations, alternative methods for establishing the reliability of the results were abandoned. Individual variables on expected outcomes were also factor analysed revealing

three factors for each scenario. The variables are classified under the factors of service quality, financial losses and business relationships further confirming the important dimensions of individuals' perceived consequences of their wrong classifications of viable and non-viable firms. They also confirm the *construct validity* of the survey results (please contact the author for additional information). The *predictive validity* of the survey results is confirmed using a logistic regression model (please see next section).

## 6.0 Empirical Results

### Individuals' Expected Outcomes and their "Going-Concern" Opinions-H1, H2

Before testing the hypotheses, descriptive statistics on the list of potential consequences under both scenarios (wrong classification of viable and non-viable firms) were calculated including normality tests. Results indicate individuals' concern regarding the quality of their service rather than financial losses. For example, the variables "deficient advice", "organization reputation" and "personal reputation" are the most highly-rated variables perceived as the consequences of wrongly classifying an non-viable firm as viable. Similarly, for the wrong classification of a viable firm as non-viable the most important variables relate to "client relationships", "quality of service" and "deficient advice".

Next, in order to test hypothesis (H1), the mean values of the variables was calculated for both alternatives creating two additional variables. As the data is not normally distributed, Wilcoxon's signed ranks test was applied. Wilcoxon's test not only it tells the difference between any pair but it also ranks the differences in order of absolute size (Siegel and Castellan, 1988, 87). Results are presented in table 1 below not supporting hypothesis (H1):

TABLE 1

Wilcoxon's Test on the Consequences of Company wrong Viability Assessments - Pooled Group Sample and Individual Group Responses

	Mean	Standard Deviation
<b>Pooled Group Sample</b>		
Viable/ non-viable	2.43	0.72
Non-viable/Viable	2.29	0.62
<b>Wilcoxon Z = -2.113 2-Tailed P = 0.035 Ties = 7</b>		

(continues)

Auditor Responses		
Viable/ non-viable	2.39	0.71
Non-viable/Viable	2.24	0.67
<b>Wilcoxon Z = -1.74 2-Tailed P = 0.081 Ties = 2</b>		
Banker Responses		
Viable/ non-viable	2.52	0.63
Non-viable/Viable	2.36	0.55
<b>Wilcoxon Z = -2.113 2-Tailed P = 0.035 Ties = 2</b>		
IP Responses		
Viable/ non-viable	2.38	0.82
Non-viable/Viable	2.30	0.63
<b>Wilcoxon Z = -2.113 2-Tailed P = 0.035 Ties = 2</b>		

Note: 1 = Strongly Agree; 5 = Strongly Disagree.

Table 1 results (pooled group sample) indicate that, the wrong classification of a non-viable firm as viable is more important than the opposite and this is significant at 5%. Looking at individual group responses, similar results apply, although for auditors, the difference is statistically significant at 10%. However, auditors have the strongest views on this issue (mean value is 2.24). In order to identify potential group differences, Pearson's chi-square test was performed on each variable separately under the two scenarios:

TABLE 2

Pearson's Chi Square Test on the Consequences of Wrong Classification of Viable and Non-Viable Firms - Pooled Group Sample

Non-Viable as Viable		Viable as Non-Viable	
Variable	Pearson $\chi^2$	Variable	Pearson $\chi^2$
Creditor Losses	4.13	<b>Creditor Losses</b>	<b>21.39*</b>
<b>Deficient Advice</b>	<b>12.21***</b>	Deficient Advice	3.95
Organization Reputation	9.14	Organization Reputation	4.32
<b>Organization Losses</b>	<b>28.54*</b>	Organization Losses	7.69
Personal Losses	10.63	Personal Losses	6.10
Personal Reputation	6.02	Personal Reputation	3.43

(continues)



Banker Relationships	11.29	Banker Relationships	6.53
Client Relationships	6.68	Client Relationships	9.42
Creditor Relationships	9.71	Creditor Relationships	4.12
<b>IP Relationships</b>	<b>15.92**</b>	IP Relationships	6.73
Solicitor Relationships	9.08	Solicitor Relationships	3.24
Quality of Service	7.17	Quality of Service	5.35
Shareholder Losses	9.24	Shareholder Losses	13.00
Company continues Trading	3.41	Company Fails	13.00

\*Significant at 1%; \*\* significant at 5%; \*\*\* significant at 10%

Table 2 shows that, there are some statistically significant differences between the three groups regarding their perceived consequences of wrong classifications of viable and non-viable firms. Pair-wise group comparisons were also performed using again Pearson's Chi-square test to determine between which groups these differences are statistically significant. Results are summarised in table 3 below

TABLE 3

Pearson's Chi Square Test on the Consequences of a wrong classification of a Non-Viable Firm as Viable and a Viable Firm as Non-Viable:  
Pair-wise Group Comparisons

	Auditors v. Bankers	Auditors v. IPs	Bankers v. IPs
<b>Non- Viable as Viable</b>			
Deficient Advice	8.84**	1.86	6.60***
Organization Losses	14.15*	2.84	26.55*
IP relationships	2.28	9.74**	12.53**
<b>Viable as Non-Viable</b>			
Creditor Losses	12.38**	10.68**	8.97***

\*Significant at 1%; \*significant at 5%; \*\*\*significant at 10%

Table 3 also confirms the lack of group consensus on those variables. However, when further examining individual group responses using descriptive sta-

tistics and chi square tests, results do not justify the statistically significant differences. Therefore, these differences are not worthy of consideration.

Regarding hypothesis (H2), individuals' "going-concern" opinion is examined using the variable identified during the exploratory interviews "*a financially distressed firm is not a going-concern*". As the variable was measured on a 5-point Likert type scale, the dummy variable "*going-concern opinion*" was created after recoding the former. The hypothesis testing was performed using Spearman's correlation coefficients between the dummy variable and the expected outcomes (mean value) variables under both scenarios:

TABLE 4  
Spearman's Rank Correlation Coefficients on "Going-Concern" Opinion  
and Expected Outcomes - Individual Group Responses

	Mean Non-Viable/ Viable	Mean Viable/ Non-Viable	"Going-Concern" Opinion
<b>Auditor Responses</b>			
Mean Non-Viable/ Viable			
Mean Viable/ Non-Viable	0.69*		
"Going-Concern" Opinion	-0.04	0.08	
<b>Banker Responses</b>			
Mean Non-Viable/ Viable			
Mean Viable/ Non-Viable	0.32**		
"Going-Concern" Opinion	0.18	0.17	
<b>IP Responses</b>			
Mean Non-Viable/ Viable			
Mean Viable/ Non-Viable	0.70*		
"Going-Concern" Opinion	-0.1	0.13	

\*Significant at 1%; \*\*significant at 5%; \*\*\*significant at 10% (2-tailed)

Table 4 shows that, individual group responses show no statistically significant correlations between "going-concern" opinions and expected outcomes therefore, hypothesis (H2) is not supported. This reinforces individuals' professionalism including decision quality in this context refuting the argument concerning individuals' propensity to classify a firm as a non-going-concern.

### **Individuals' expected outcomes and their perceived risks, roles and risk attitudes - H3, H4 and H5**

The potential relation between individuals' expected outcomes of their wrong "going-concern" or otherwise opinions and their perceived roles, risks and risk attitudes is examined in this section. All groups perceive themselves as independent professionals. However, bankers also strongly agree that they preserve their organization's interests whereas, auditors and IPs are indifferent about it. Further, auditors also perceive themselves as representing shareholders' interests but, bankers and IPs show indifference in it. Individuals' risk attitudes are established using Craig and Ginter's (1975), risk aversion factor (scale) (Bearden et al. 1993, 53). Individuals are risk averse despite some differences between them on these variables. Finally, individuals' perceived risk involved is measured using the variable derived from the interviews "*a financially distressed firm is risky*". All three groups appear to weakly agree with this statement with a mean value for auditors 2.43, for bankers 2.47 and for IPs 2.51 on the 5-point Likert scale where 1 is strongly agree and 5 is strongly disagree. Further, there are no statistically significant differences between the three groups on this issue. Pearson chi-square test value is 4.189.

Spearman's correlation coefficients were calculated on each group's expected outcomes and their perceived risks, roles and risk attitudes.

Tables 5, 6 and 7 demonstrate differences between the three groups on these issues supporting hypotheses (H3, H4 and H5). For example, IPs' perceived risks are not significantly correlated with their expected outcomes whereas, for bankers are only correlated with their wrong classification of non-viable firms. On the contrary, auditors' perceived risks are correlated with both wrong decisions i.e., viable and non-viable firms. Further, banker risk attitudes are not correlated with their expected outcomes and similarly auditor perceived roles are not correlated either.

In conclusion, results indicate that, individuals' expectations of the outcomes of their wrong "going-concern" or otherwise classifications might to some extent be influenced by behavioural factors. However, there exist differ-

TABLE 5

Spearman's Rank Correlation Coefficients on Expected Outcomes and Perceived Risks, Roles and Risk Attitudes - Auditor Responses

Variables		1 Mean Non- Viable/ Viable	2 Mean Viable / Non- Viable	3 Risk attitude – Chance	4 Risk attitude – Safe	5 Risk attitude – Surprise	6 Role – Independ- ent	7 Role – share- holder interests	8 Role- organi- zation interests	9 Perceived risks
1	Mean Non-Viable / Viable									
2	Mean Viable / Non-Viable	0.692*								
3	Risk attitude – Chance	-0.098	-0.035							
4	Risk attitude – Safe	<b>0.411***</b>	0.228	-0.481*						
5	Risk attitude – Surprise	-0.117	-0.128	0.250	-0.351**					
6	Role – Independent	0.159	0.024	-0.047	0.118	0.179				
7	Role – shareholder interests	-0.181	-0.132	-0.117	0.157	0.004	-0.082			
8	Role- organization interests	0.180	0.079	-0.161	0.259	0.209	0.047	-0.226		
9	Perceived risks	<b>0.307**</b>	<b>0.273***</b>	-0.164	0.077	-0.502	-0.238	-0.149	-0.128	

\*Significant at 1%; \*\*significant at 5%; \*\*\*significant at 10% (2-tailed)

TABLE 6

Spearman's Rank Correlation Coefficients on Expected Outcomes and Perceived Risks, Roles and Risk Attitudes - Banker Responses

Variables		1 Mean Non- Viable/ Viable	2 Mean Viable / Non- Viable	3 Risk attitude – Chance	4 Risk attitude – Safe	5 Risk attitude – Surprise	6 Role – Indepen- dent	7 Role – share- holder interests	8 Role- organi- zation interests	9 Perceived risks
1	Mean Non-Viable / Viable									
2	Mean Viable / Non-Viable	0.321**								
3	Risk attitude – Chance	0.057	0.031							
4	Risk attitude – Safe	-0.056	-0.018	-0.658*						
5	Risk attitude – Surprise	0.039	0.034	0.423**	-0.278**					
6	Role – Independent	0.168	0.055	0.125	-0.302**	0.142				
7	Role – shareholder interests	<b>0.299**</b>	-0.031	0.230	-0.266***	-0.135	0.188			
8	Role- organization interests	0.011	0.163	-0.354	0.275***	0.209	0.062	-0.226***		
9	Perceived risks	<b>0.245**</b>	0.119	-0.001	-0.128	-0.120	0.077	0.166	0.081	

\*Significant at 1%; \*\*significant at 5%; \*\*\*significant at 10% (2-tailed)

TABLE 7

Spearman's Rank Correlation Coefficients on Expected Outcomes and Perceived Risks, Roles and risk Attitudes - IP Responses

Variables		1 Mean Non- Viable/ Viable	2 Mean Viable / Non- Viable	3 Risk attitude – Chance	4 Risk attitude – Safe	5 Risk attitude – Surprise	6 Role – Indepe- ndent	7 Role – share- holder interests	8 Role- organi- zation interests	9 Perceived risks
1	Mean Non-Viable / Viable									
2	Mean Viable / Non-Viable	0.701**								
3	Risk attitude – Chance	-0.020	-0.013							
4	Risk attitude – Safe	0.197	<b>0.249***</b>	-0.470*						
5	Risk attitude – Surprise	0.148	0.006	0.304**	-0.225					
6	Role – Independent	<b>0.378*</b>	<b>0.319**</b>	-0.007	0.138	-0.042				
7	Role – shareholder interests	0.138	0.106	0.028	0.204	0.426*	0.027			
8	Role- organization interests	0.074	0.034	0.021	0.019	0.018	-0.017	0.207		
9	Perceived risks	0.193	0.112	0.039	0.213	0.141	0.156	-0.044	0.191	

\*Significant at 1%; \*\*significant at 5%; \*\*\*significant at 10% (2-tailed)

ences between the three groups which, may partly attributed to behavioural differences per se such as their perceived roles.

Finally, a logistic regression model is developed using "going-concern" opinion as the dependent variable and individuals' expected outcomes (mean value variables), perceived risks and role and risk attitudes as independent variables. The model is developed after controlling for the demographic variables including user identification. Results are summarised in tables 8 and 9 below

TABLE 8

Logistic Regression Classification Results of Going-Concern/Non-Going Concern Companies using Individuals' Expected outcomes, perceived risks, roles and risk attitudes - controlling for demographic variables

Panel A: Logistic Regression Classification Results			
Observed	Predicted (no. of cases)		Correct (%)
	Non-going concern	Going- concern	
Non-going concern	72	3	96.00
Going- concern	20	10	33.33
<b>Overall</b>			<b>78.10</b>

Notes: -2 log likelihood initial 120.243; -2 log likelihood final 107.765;  $\chi^2$  is 12.478 significant at 5%.

Panel B: Comparisons of Group Classification Percentages				
	Total Number of Cases	Group 1 Non-Going Concern	Group 2 Going-Concern	Overall Correct Classification (%)
Actual Cases	133	93 (70%)	40 (30%)	100
Cases used in the logistic regression	105	72 (96.00%)	10 (33.33%)	78.10

Table 8 shows a remarkable classification of non-going-concern companies (96%) but not for "going-concern" ones (33.33%). However, using the "maximum chance criterion" which is seventy percent, this is lower than the overall correct classification (78.10%) and therefore results are satisfactory (Hair et al. 1995). The chi square test is also significant at 5% confirming the importance of the number of parameters between the initial model (demographic variables) and the rest of the variables. Unlike conventional regression analysis

where model parameters are estimated using the "least-squares method", logistic regression coefficients are selected using the "maximum-likelihood method". The interpretation of logistic regression coefficients is therefore less straightforward where the probability of the event occurring ("going-concern" opinion or otherwise) must be estimated using the equation (Norusis, 1994)

TABLE 9

Logistic Regression Model of "Going-Concern" Opinion Decision using Individuals' expected outcomes, perceived risks and roles and risk attitudes - controlling for demographic variables

Variable	B	S.E.	Wald	d.f.	Sig.	R	Exp (B)
Age	0.2727	0.2144	1.6175	1	0.2034	0.000	1.3135
Company Size	-0.2397	0.1958	1.4987	1	0.2209	0.000	0.7868
Education	0.0331	0.1516	0.0478	1	0.8270	0.000	1.0337
User ID	0.3327	0.3278	1.0297	1	0.3102	0.000	1.3947
Gender	1.3646	0.7768	3.0860	1	0.0790	0.095	3.9142
Years at current post	-0.2109	0.2577	0.6695	1	0.4132	0.000	0.8099
Years at previous post(s)	-0.3469	0.2406	2.0790	1	0.1493	-0.026	0.7069
Mean non-viable as viable	0.0926	0.5430	0.0291	1	0.8646	0.000	1.0970
Mean viable as non-viable	0.6511	0.5028	1.6772	1	0.1953	0.000	1.9177
Perceived risk	0.4659	0.2326	4.0136	1	0.0451	0.129	1.5935
Role- independent professional	0.0258	0.2533	0.0104	1	0.9189	0.000	1.0261
Risk attitude - safe than sorry	-0.5744	0.3643	2.4856	1	0.1149	-0.06	0.5630
Risk attitude - like surprises	0.3405	0.2668	1.6294	1	0.2018	0.000	1.4057
Constant	-5.8803	2.7598	4.5398	1	0.0331		

$$Prob (\text{going-concern}) = \frac{1}{1+e^{-z}} \quad (1)$$

Where

$$Z = - 5.8803 + 0.2727 (\text{age}) - 0.2397 (\text{size}) - 0.0331 (\text{education}) + 0.3327 (\text{id}) + 1.3646 (\text{gender}) - 0.2109 (\text{current post}) - 0.3469 (\text{previous post}) + 0.0926$$



$$(non-viable/viable) + 0.6511 (viable / non-viable) + 0.4659 (risk) + 0.258 (role-independent) - 0.5744 (risk - safe) + 0.3405 (risk-surprises) \quad (2)$$

Consequently, to estimate the probability of a "going-concern or otherwise opinion, one must apply the above equation (2) using values for each independent variable. Although the Wald test is not significant for the majority of the beta coefficients, this does not suggest that the variables are not important because the chi-square test is significant. Further, the model is developed after a number of iterations concluding that these variables improve the "goodness of fit" of the model. Finally, results also provide confirmatory evidence on the *predictive validity* of the survey results.

## 7.0 DISCUSSION

The empirical evidence has shown that individuals' perceive that a wrong classification of a non-viable firm as more important than the opposite. This raises some concerns regarding individuals' potentially biased decision towards classifying a firm as non-viable to safeguard their own interests. However, the most important perceived consequences of wrong classifications relate to individuals' quality of service to their clients and to their organization's reputation rather than to personal (financial/career) adverse implications. Furthermore, individuals' "going-concern" opinion decision is not related to their perceived consequences reinforcing the argument regarding their strong professionalism including the quality of their decision. Nonetheless, individuals' professionalism is contrasted by the statistically significant correlations between their expected outcomes and their perceived roles, risks and risk attitudes. Further, the logistic regression results suggest a subtle impact of expected outcomes on "going-concern" opinions. They also reflect what is happening in practice that is, the correct classification of "non-going concern" companies being easier than the opposite. Further research examining these issues as well as the impact of alternative behavioural factors on individuals' judgement and final choice is required before any solid conclusions can be drawn. The latter may involve individuals' alternative risk attitude and/or, personality scales as well as potential use of heuristics (Tversky and Kahneman, 1974; Kline, 1993).

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