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Structured Abstract:

Purpose – The aim of this paper is to explore the non-financial causes of organizational success or failure, provide a better understanding of the symptoms of financial distress and improve the predictive capacity of financial failure models.

Design/methodology/approach – The paper utilizes exploratory case studies in investigating the relationship of non-financial factors to organizational success or failure across a sample of sector-specific Australian firms.

Findings – Non-financial factors associated with the organizations studied impacted their success or failure. These factors included management skill, experience and involvement in organizational strategy, feedback, and resultant activity, together with board of director composition. It was also evident that success or failure could not be determined with confidence by Altman's Z-score.

Practical implications – The paper establishes the presence of non-financial factors, thereby strengthening the understanding of organizational success or failure.

Originality/value – The identification of financial and non-financial factors and sound internal processes can be utilised for the development of an early warning predictor of organizational success or failure.

Keywords: Australia, Financial failure, Non-financial factors, Management, Organization

Article Classification: Research paper

1. Introduction

The current global economic downturn remains a significant threat to organizational success or failure. The Global Financial Crisis (GFC), initiated by the U.S. sub-prime mortgage meltdown and subsequent corporate failures, has affected a range of stakeholders including investors, management, creditors, auditors, customers and employees (Bloomberg.com, 2012). A classic victim of failure during the GFC was U.S. investment bank, Lehman Brothers. Australia has also seen several cycles of costly corporate failures over the years, with some of the most recent including BrisConnections, Kirway Constructions, ABC Learning, Babcock and Brown and Great Southern Group. During these cycles, different industry sectors have experienced higher failure rates than others (i.e., the dotcom boom and bust in the late nineties). The factors of failure are varied, with some attributable to heavy debt levels in organizations, high interest rates and declining profits due to recession (Ooghe and Waeyaert, 2004; Rees, 1995).

Corporate failure occurs when the organization's revenues are not able to cover costs and average return on investment falls below the cost of capital (Altman, 1983; Charitou, Neophytou and Charalambous, 2004). The term 'failure' has also been described by the credit watch organization, Dun and Bradstreet, and expanded upon by Haswell and Holmes (1989), as an organization which has ceased trading. Cessation of trading can be the result of: (1) assignment or bankruptcy; (2) losses to creditors after execution or foreclosure; (3) voluntarily ceasing operations without paying obligations to creditors or being involved in court action/s; and (4) arriving at a voluntary compromise with creditors. According to Altman (2000) insolvency occurs when an organization is unable to pay its debts or obligations to its creditors, or has insufficient liquidity.

In Australia, three main regulative stages result from insolvency: (1) administration; (2) receivership; and (3) liquidation. In turn, each of these stages has different outcomes and remedies. For example, administration is effected through an appointment by the directors of a company administrator; receivership can either be appointed by a creditor of the company or by direction of the court; and a liquidator can be appointed by the court or a shareholder through the court, or as a result of a receivership being finalised and taken to the next stage of the insolvency process, respectively (Baxt, 2011; Ford, Austin and Ramsay, 2003). The lodgement of an application for one of these appointments of administrator, receiver or liquidator is the explicit case of formal organizational failure, and as such, could be viewed as a definitive organizational performance indicator. These types of appointments are separate events and at a minimum result in automatic delisting from the Australian Stock Exchange (ASX). While these outcomes and remedies may be seen as shades of death, some organizations in administration and receivership may still be resuscitated back to life, but the appointment of a liquidator is the fatal deathblow for the organization (Baxt, 2011).

Although financial ratios may not be regarded as the most efficient way to predict organizational failure, bankruptcy prediction models have been found to be particularly valuable for risk prediction (Altman, 2000; Barker and Duhaime, 1997). Altman's (2000) Z-score, for example, continues to be used by academics and practitioners as a gauge of a firm's risk or financial distress; thus, financial ratios, as early warning systems of failure, are still deemed useful (Arogyaswamy et al., 1995). Nevertheless, the primary use of financial ratios raises a number of concerns in an organizational context. If financial performance, as reflected by financial ratios, is deemed to be the scorecard of the organization, and the organization fails without warning, then this measurement form (or other forms of quantitative modelling) may not assist in the prediction of failure in an accurate and timely manner. Studies on organizational failure have tended to be anecdotal (Cressy, 2006; Crutzen and Van Caillie, 2007; D'Aveni, 1999) and identified the symptoms rather than the causes (Altman, 2000; Dambolena and Khoury, 1980; Ooghe and Prijcker, 2008), highlighting the need for alternative approaches. As such, qualitative or 'non-financial' factors have been identified by the international literature (D'Aveni, 1999; Madrid-Guijarro et al., 2011) as a positive contributor to organizational success. For instance, non-financial factors such as board composition, management skill and strategy (Daily, 1999; Daily and Dalton, 1995; D'Aveni, 1999; Hambrick and D'Aveni, 1992; Mankins and Steele, 2005; Moulton and

Thomas, 1993; Pfeffer, 1981), together with internal environmental factors (Moulton and Thomas, 1993), have been recognized as potential leading indicators of organizational success or failure (Grunert, Norden and Weber, 2005).

Given the limited research conducted on non-financial factors which impact corporate operations in Australia, and the perceived importance of such factors, further investigation is warranted. Therefore, the aim of this paper is to explore the non-financial causes of Australian organizational success or failure by addressing the following research question:

“What is the relationship between organizational success or failure and non-financial factors of management, strategy and internal environment in Australia?”

In response to the research question stated we further identify two propositions:

P₁: Information on management experience and expertise, business strategy implementation, or internal environment does assist in the prediction of organizational success or failure in Australia.

P₂: An advantage is gained from the incorporation of the non-financial factors of management experience and expertise, business strategy implementation, or internal environment with financial indicators in the prediction of organizational success or failure in Australia.

The propositions will be addressed in an exploratory ‘case study’ framework. It is anticipated that the research will provide a better understanding of the symptoms of financial distress and improve the predictive capacity of financial failure models. The paper proceeds as follows: Section 2 discusses key literature; Section 3 explains the exploratory case study methodology employed; Section 4 presents the exploratory case study results; and Section 5 concludes and identifies opportunities for further research.

2. Literature review

The call for reliable failure predictors in reducing organizational failure has been prominent in the literature. In response, a number of prediction studies have been undertaken since Beaver’s (1967) seminal work, with the majority of them employing multiple discriminant analyses (Charitou et al., 2004). In particular, a number of studies (Beaver, McNichols and Jung-Wu, 2005; Casey and Bartczak, 1984; Murty and Misra, 2004) have examined cash flow information within relevant sections of company financials, along with corporate governance practices (which have received significant attention since the GFC). In Australia, the policy response has been the introduction of Australian Accounting Standards Board Statement of Cash Flows (2011) (AASB 107). The literature (Barker and Duhaime, 1997; Staw, Sanderlands and Dutton, 1981; Weitzel and Jonnson, 1989) also supports the view that financial decline can be caused or exacerbated by poor decision making processes (e.g., decision making theory, threat rigidity and agency theory), loss of key personnel, and withdrawal of stakeholder support for the organization.

Evidence suggests that the executive management team of organizations approaching failure may not have the appropriate skill set to deal with the problems besetting the firm (D’Aveni, 1999; Handy, 2002; Heifetz, Grashow and Linsky, 2009), and that the firm may be more likely to survive if the appropriate managerial skill set is introduced (Beaver et al., 2005). In recognition of the need for specialised management skills in firms approaching failure, the company administrator was introduced in Australia in 2001. The administrator takes over the management and operations of a company either by an appointment through the courts or by the company’s board of directors appointing an administrator under the Australian Corporations Act 2001. This process enables an individual whose skills are recognised as situation appropriate by the courts to run the organization; with a view to guiding the organization back into normal operations. Nevertheless, the administrator’s appointment is usually undertaken too late in the majority of cases and as such, the death of the organization is inevitable.

A number of questions have also been raised regarding the restrictive statistical requirements imposed by financial failure ratios and modelling (Ohlson, 1980). Research based upon Altman's financial ratio (Beaver et al., 2005) and artificial neural network analyses (Chakraborty and Sharma, 2007; Coats, 1993) have been undertaken in the area of organizational failure, yet the ability of these methods to predict the financial solvency of an organization within two years of failure and across various industry sectors does not appear to be adequate (Charitou et al., 2004; Ohlson, 1980). Arogyaswamy, Barker and Yasai-Ardekani (1995) further reveal the shortcomings of using financial ratios to measure organizational decline, stating that ratios are highly sensitive to changes in the numerator or denominator inputs. Similarly, Barker and Duhaime (1997) show that recovering firms often increase efficiencies; however, the recovery may not be based on the cost-cutting measures (e.g., retrenchment) that were alleged to have saved the firm. For instance, the firm might have kept their cost structure the same by increasing sales, which would have resulted in greater efficiency measures for the firm, but required different actions than those assumed under retrenchment. Comparisons between organizations may also need to be more industry/sector specific, as different industries/sectors employ an array of varying ratios (Altman, 2000; Madrid-Guijarro, Garcia-Perez-de Lema and van Auken, 2011).

More recently there has been concern with the reliability and accuracy of accounting information being used by organizations, which obviously impacts the validity of the ratio analysis being undertaken (Chuvakhin and Gertmenian, 2003). For example, as a result of the U.S. 2002 Enron collapse and 2005 WorldCom failure, company officers have since been prosecuted for falsifying public accounting information (Karpoff, Scott and Martin, 2010). Incidents like Enron and WorldCom have identified matters that substantially impact the preparation of financial statements, including accounting standards which have a fair value bias, an increase in intangible assets importance and a perceived increase in the amount of discretion in the preparation of financial statements (Beaver et al., 2005; Stent, Bradbury and Hooks, 2010).

3. Methodology

Corporate failure is a process, rather than a point in time (Fitzgerald, 2006), and for the purpose of this research, failure is a term used to describe companies that are in administration, receivership, or any type of liquidation. Organizational success or failure is the end result of the management process which involves the business factors as shown in Figure 1 (Handy, 2002; Shukla, 2004). As Figure 1 illustrates, the organization's movement towards success or failure has no uniform pattern as a total organization. However, this study seeks to identify patterns within the organization's operations associated with success or failure. Although a number of longitudinal methods could be used to observe the processes in successful companies, we find these methods inappropriate for studying the process of failed organizations, since failure is studied after it occurs and causes limitations of access to information, to the people involved and does not capture the dynamic process of failure (Chowdhury, 2002; Hambrick and D'Aveni, 1988). Usually potential respondents have moved on to other businesses after failure and are difficult to source.

[INSERT FIGURE 1 HERE]

Accordingly, we employ the exploratory case study method, enabling it to fit within a comparative structure for analysis of successful and failed organizations. Yin (2009) defines the case study as a research strategy that focuses upon the understanding of situation dynamics within a single setting. The definition does recognise qualitative analysis value in situations where scientific controls cannot be used or are not ethically justifiable (Williams, 2007). Different strategies (Eisenhardt, 1989; Yin, 1994) have been suggested for performing case study research, but these strategies do not describe the theory building process in sufficient detail to assist a researcher to utilise a template process. A case study may be characterised as a detailed examination of an event or events in which the researcher believes that the case shows the operation of some identified general principle (Klein and Myers, 1999). This type of research provides a set of general parameters which reflect upon the outcomes, possibly assisting in building knowledge and theory. It can also assist at a high level of abstraction where the

researcher must select immovable research details within the research parameters. Further, multiple cases strengthen the results by replicating pattern matching, which increases confidence in the robustness of the theory presented. However, they can also underline the complexity of the topic under study and develop evidence to support and refine theory (Leedy and Ormrod, 2001). This type of analysis holds the potential to provide assistance in understanding the underlying non-financial factors that may cause organizational success or failure.

Non-financial factors can add value to the use of financial prediction models by adding non-quantitative variables (Grunert, Norden and Weber, 2005). The complexity of failure, given it is the misalignment of the organization with the internal environment's realities, makes it critical to understand the non-financial business factors that cause failure (Sheppard and Chowdhury, 2005). This complexity of organizational failure can be turned to advantage for multiple case studies where results could replicate pattern-matching which might increase confidence in using non-financial factors to complement the use of financial predictors (Grunert et al., 2005). In this research, the number of cases was determined by the type of case study (which was exploratory). Sampling logic was not used and the typical criteria regarding sampling size was deemed irrelevant (Eisenhardt, 1989; Yin, 2009). A two-tailed designed study was designed, in which cases from both extremes were chosen from three Australian business sectors: Finance (*Finsuccess* and *Finfail*), Property (*Propsuccess* and *Propfail*) and Manufacturing (*Manusuccess* and *Manufail*). This enabled theoretical replications across sub-groups to be complimented by literal replications within each sub-group (Yin, 2009). Additionally, each individual case studied was designed as an embedded case study with multiple units of analysis or perspectives, and consequently presented as a complete case study (Perry and Cavaye, 2002; Yin, 2009). A population sample of between six to eight cases was recognised as an adequate level for an exploratory multiple case study (Cepeda and Martin, 2005; Eisenhardt, 1989; Wells, Hirshberg, Lipton and Oakes, 1995; Yin, 2009). To improve the reliability of the case studies, a pilot study was undertaken prior to data collection to ensure that any problems in the interview approach were identified and corrected prior to the actual data collection. The revisions that resulted were incorporated in the final interview sheet used in the research.

Data collection for the case studies was based on top managers' willingness to participate and undertaken via semi-structured interviews (which was transcribed afterwards). Given that access to top management is one of the biggest challenges in conducting organizational decline/failure research, it should be noted that managers in other failed firms might not have allowed access to such information (e.g., the threat of litigation or the issuance of subpoenas). This could potentially introduce biases into the research. For instance, only firms that were in good shape, despite being in bankruptcy, participated, meaning that firms that had a liquidator appointed in receivership were not included in the sampling. However, this was not perceived to be an issue in this study. The interviews included items of general information such as the parent or core organization vision, mission and business objectives, as well as organizational structure. Findings that emerged from the initial analysis were used to form the basis of subsequent telephone interviews, and to obtain further data as support for what had emerged previously from the interviews.

Altman (2000) Z-scores were also employed to determine if non-financial case factors could be used prior to ratio calculation, and thereby support the financial ratio indicators. While Z-scores have traditionally been used for manufacturing firms, Altman indicates that they can be extended to non-manufacturing entities but should be treated with caution. Using Z-scores involves the firm's financial statements which are an historical measurement of prior performance. Non-financial factors are part of the determinants that result in financial statements and should be used alongside traditional, and more accepted, financial analyses. In the cases studied, two years' financial statements, $t-1$ and $t-2$, were used in the Z-score calculations, where t is the point of success or failure. There were two exceptions to these calculations: *Finfail 1*, where the only financials available were three years before failure, $t-3$; and *Finfail 2*, where the financials available were one year prior to failure point, $t-1$. The standard readings of the likely failure scores were that all firms with a Z-score greater than 2.99 were classified

as non-bankrupt, while those below 1.81 were bankrupt (Altman, 2000). The area between 1.81 and 2.99 was defined as a grey area because of the susceptibility to classification error (Altman, 2000). Consequently, the Z-scores enabled the non-financial factors to be benchmarked against and augment the financial predictors, allowing the research to highlight the non-financial causes of success or failure and *not* the overall financial performance (as generally observed in financial statements).

4. Results

The analysis of this multiple case study was undertaken through evaluation and interpretation of information from interviews, company commercial in confidence documents and external information pertaining to the organizational structure, management skills, strategy formulation and implementation, involving write-ups for each case. This approach enabled each individual case study to be a stand-alone entity and allowed unique patterns of each case to emerge before the replication process across cases commenced; thus, accelerating cross-case comparisons. The analysis of the case studies suggested clear differences between successful and failed companies across the three Australian sectors investigated (see Table 1), and to a lesser extent in the financial data (as indicated by the Z-scores – see Figures 2 and 3). We found that the successful organizations studied had the following attributes: (1) the chairman had industry experience and tenure with the company prior to appointment as chairman; (2) the Chief Executive Officer (CEO) had industry experience, was operating with a Chief Financial Officer (CFO) and was appointed by the board; (3) the original company founders had no involvement with the company; (4) monthly financial statements were reported against and any indicated action taken; (5) strategic plans were undertaken by management and reported against to the board; and (6) frequent external communication was undertaken by the company and all public documents lodged in a timely manner. Conversely, the failed organizations studied demonstrated the following attributes: (1) the chairman had significantly less tenure than the chairman of successful companies prior to appointment as chairman; (2) the CEO had relatively little industry experience or qualifications, was operating without a CFO or if operating with a CFO, the CFO had relatively little industry experience; (3) a relatively small number of non-executive directors were on the board in comparison to successful companies; (4) the original company founders had some involvement with the company; and (5) poorly functioning management systems operated within the company.

[INSERT TABLE 1 HERE]

Management's responsibility for the organization's success or failure was clearly evident in the case studies. Management's competencies, experience and skills were significant factors (Handy, 2002), along with human resources, systems and strategy. The evidence supporting successful organizations implies that the board should design and test the robustness of corporate strategies in consultation with management, so that management have accountability and ownership of results (Hwa-Hsien and Yu-Hsuan, 2010; Lohrke, Bedeian and Palmer, 2004). Notably, even with this in place, reactivity was not guaranteed, which was consistent with Shukla's (2004) study. It appeared in the cases studied that the level and existence of corporate governance had no major influence over the successful organizations, while in the unsuccessful organizations it was looked upon as an impost without value. We also examined the companies' regulatory requirements involving corporate governance and Australian Securities Investments Commission (ASIC) and ASX document lodgements (Filatotchev and Toms, 2006). Although some of the organizations studied had more than the required number of statutory documents lodged, it appeared that there was little to sustain an argument that a company's success or failure was due to this factor alone. Moreover, the evidence suggests that internal problems with management and the board are more prominent than external regulatory factors. Finally, the cases studied were benchmarked with Altman's (2000) Z-score in respect to their financial ratios during the years preceding the case study, which gave insight into the use of such ratios (see Figures 2 and 3).

[INSERT FIGURE 2 HERE]

[INSERT FIGURE 3 HERE]

In all of the seven cases examined, only one case had a Z-score in the desired 'safe zone' (i.e., *Finfail 1* with 6.6). Note: *Finfail 1* was one of the unsuccessful companies identified three years from failure. Six of the seven companies studied were between the high alert zone and the extreme failure zone for their respective Z-score results, and three of these companies were successful. According to the Z-score of the successful companies, two of them were in the high and extreme failure zone, indicating failure within a two year period, and the other was in the high alert zone, where caution is to be exercised. All of these companies were still trading on the ASX and had reported profits for the eighteen months prior to the commencement of the study. The Z-score for *Finfail 1* was significantly higher than all of the failed companies and is in the safe zone, although the financials used in the calculations were three years prior to failure. Notably, non-financial factors could have had more of a significant impact upon *Finfail 1* to cause failure. Further, there were significant retained earnings over the life of *Finfail 1* which may have impacted the Z-score, placing it into the safety zone as a result of its historical performances.

The successful companies did not score well but this was possibly due to the various standard weightings used in the calculation, and may not be applicable to non-manufacturing companies, consequently causing poor readings for these companies. In *Propsuccess*, there were significant losses held in retained earnings which may have caused the negative score. Further, only *Manusuccess* was in the business sector in which the Z-score was originally developed. Issues apparent in using the Z-score could be the financial time periods over which the calculation was undertaken, and in this study (due to the changing structures of the businesses) only two years' worth of comparatives were used to provide a meaningful comparison. However, in all cases studied there were relatively small differences between the different years' Z-scores for the same companies. The cases of *Propfail* and *Finfail 2* had a greater depth of financial details available to the researcher but were not published to external third parties. During the operation of these companies, had this privileged information been made available to specific external third parties, it would have made them insiders for share trading purposes. However, this greater financial detail, if made available, could enable a more accurate calculation of the Z-score. In such instances, non-financial factors could strengthen the numeric predictors. However, *Finfail 2* financials were available only for the twelve month period prior to failure and, irrespective of the Z-score criteria having not been validated for financial companies, may not present an accurate Z-score (e.g., closeness to the failure point). The inclusion of non-financial factors in this instance may also have assisted in presenting a more accurate picture of the company's financial health.

Ignoring the *Propsuccess* variation, the successful cases had a significantly higher score than those of the unsuccessful cases (also ignoring the score of *Finfail 1*). These scores indicated that the difference in the particular sector was more significant than the actual Z-score level, a view supported in Altman's (2000) study. Comparatively, two of three successful companies had better scores than the failed companies, perhaps indicating that the standard readings may need to be adjusted upon recognition of other respective financial variables. Notably, the Z-score testing was a predictive model using historical financials over a three-to-five year period, but combining Z-score testing with non-financial causes of success or failure may enable a shorter calculation time period to be used or augment these standard three-to-five year calculations (Brabazon and Keenan, 2004). Overall, the Z-score results support *Proposition 1*, suggesting a possible difference in using either financial factors or non-financial factors to predict a company's financial position. The results also confirm *Proposition 2*, indicating that there could be a difference in the predictive accuracy using a combination of financial and non-financial factors.

5. Conclusion

This paper has revealed that the influence of specific non-financial factors across the Australian firms studied, including management and the board of directors, did have an impact upon their success or failure. During the course of this research it became evident that a significant cause of failure was inferior management quality (Handy, 2002). Poor management may impede company performance

and/or render organizations failure prone, particularly when the personal characteristics of managers conflict with corporate strategic vision (Quinn, 2005). This study recognised that the companies examined were managed by professional managers and *not* entrepreneurs (who have an entirely different risk profile). For example, entrepreneurs may persuade company's management to have different responses to certain situations dependent upon their respective risk profiles. Further, it was found that all successful companies had directors on the board who were not founders of the company, and that in review of external information, no high risk projects were undertaken.

The successful cases investigated showed that a well-functioning management team may protect the company against failure, while dysfunctional management teams were apparent in the failed cases, rendering such companies failure prone. Successful companies displayed team factors that are operational, whereas failed companies show the non-existence of teams in crisis position. For instance, the management of the failed companies did not have the ability to recognise the company's position of crisis; thus confirming the findings of Katzenbach and Smith (2005). Examination of the failed cases supported the work of Shukla (2004) and Staw et al., (1981), in that inertia of the decision making process in failing corporations can lead to missed opportunities, such as the non-response to the company's strategic plan. Additionally, it was discovered that management decision making approaches may become frozen in the face of impending failure, dependent upon the stress level within the organization and the management skill base (Shukla, 2004; Staw et al., 1981). Nevertheless, management skill must be able to match the requirements for the company's phase of development and operational characteristics, such as whether the company is mature, developing or at another stage of its life cycle.

A limitation of this paper is that the non-financial factors discovered were not examined in an empirical framework. However, this could be addressed by developing an integrative non-financial and financial factor (e.g., liquidity, profitability, debt, operating performance and cash flow ratio analyses) model which may act as an early warning predictor of organizational failure (see Figure 4). Moreover, future propositions and questions may centre upon more specific components of the company's non-financial factors combined with management's expertise (Shukla, 2004; Staw et al., 1981). Also, in the failed cases studied, the implementation of a rescue program should have given consideration to review of the respective organization's management, board composition, planning processes, and management experience in the sector (Handy, 2002; Shukla, 2004; Staw et al., 1981). It should be noted that while the internal factors identified in this study are important, external factors (e.g., declining industries, technological obsolescence, increased corporate regulation and reform via taxes and other policies, etc) also need to be considered when examining organizational success or failure. It was also evident from the companies studied that success or failure could not be determined with confidence by Altman's (2000) standard Z-score ratio analysis. This could be explained by the financials being used, in that, they were within two years of success or failure, or that they were not relevant to the companies operating in non-manufacturing sectors during the course of the study (Charitou et al., 2004; Ohlson, 1980). Finally, the exploration of non-financial factors could consider other Australian sectors which employ similar case study frameworks. It is perceived that such investigations would generate a wider range of participants (across divergent industries and firms), extrapolate the findings of this study and provide grounds for further comparative analyses. Such examinations and their influence on organizational success or failure are best left to future research.

[INSERT FIGURE 4 HERE]

Despite the difficulty associated with studying failed organizations (i.e., from the access of respondents to internal data collection, along with the reporting of findings and identification of appropriate statistical processes), this exploratory case study research has identified relationships between non-financial factors and corporate performance across different business sectors, thereby creating a better understanding of the causes of organizational success or failure. The identification of sound processes within the firm as early warning signs for organizational success or failure is also of

great importance. The findings have established a platform for future examination and the development of a more accurate failure predictor (inclusive of relevant non-financial factors). The cost of ignoring the potential contribution of improved failure prediction is large, with corporate failure resulting in extreme economic and social consequences for countries and individuals alike. An enhanced financial predictor could reduce, or at best, eradicate the organization's destiny to fail!

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Table 1.

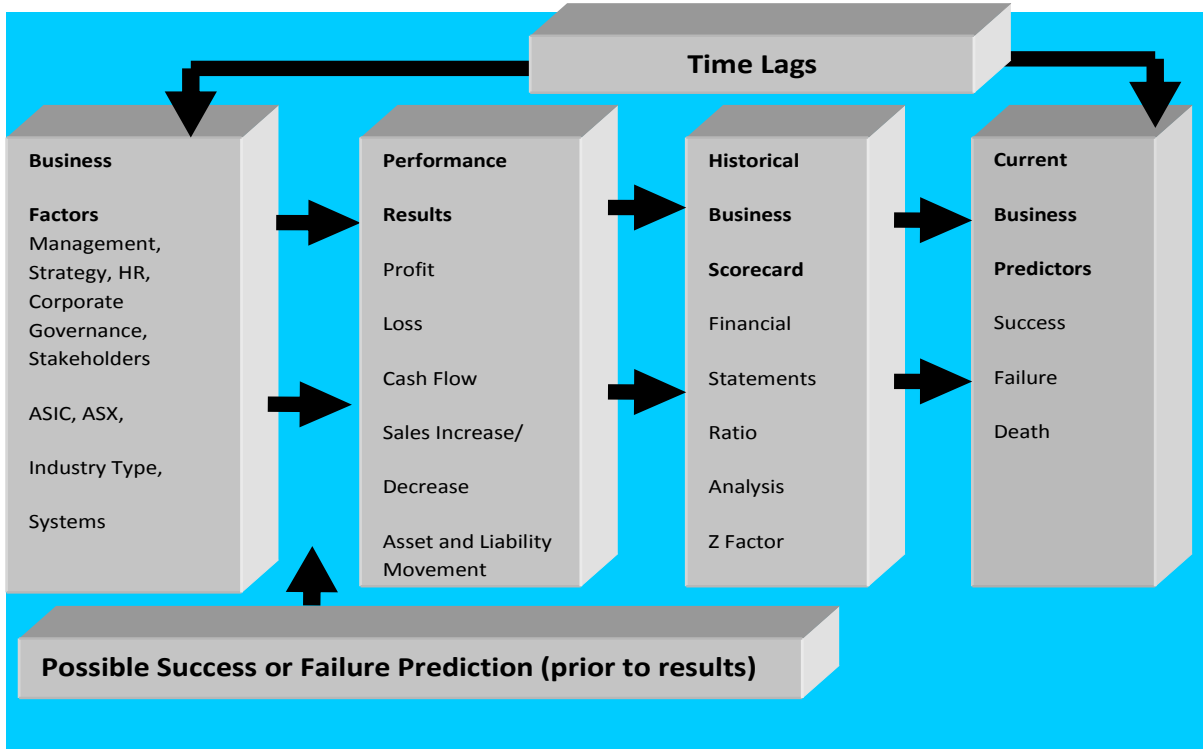
Matrix of success and failure inputs

	Fin. Success	Prop. Success	Manu. Success	Fin. Fail 1	Fin. Fail 2	Prop. Failure	Manu. Failure
Chairman Industry Experience over 20 yrs	✓	✓	✓	✓	✗	✓	✗
Chairman's age over 50 yrs	✓	✓	✓	✓	✓	✓	✓
CEO Board Appointed	✓	✓	✓	✓	✗	✗	✓
Board Members at least 70% non-executive	✓	✓	✓	✓	✓	✗	✗
Board has more than 3 non-executive members	✓	✓	✓	✓	✗	✗	✗
CEO Industry Experience over 20 yrs	✓	✓	✗	✓	✗	✓	✗
CEO's age over 50 yrs	✓	✓	✗	✗	✗	✓	✗
CFO Industry Experience over 10 yrs	✓	✓	✗	✗	✗	✗	✗
Strategic Plan reported on	✓	✓	✓	✓	✗	✓	✓
Actions taken on strategic plan	✓	✓	✓	✗	✗	✗	✗
Business plan reported on monthly	✓	✓	✓	✓	✓	✓	✓
Actions taken on business plan	✓	✓	✓	✓	✗	✓	✓
Staff training available	✓	✓	✓	✓	✗	✗	✗
Company external communication	✓	✓	✓	✓	✓	✓	✗
Document lodgment to public authorities timely	✓	✓	✓	✓	✓	✓	✗
ASIC Investigation	✗	✗	✗	✗	✓	✓	✗
Matrix Key Yes Count ✓	16	16	13	13	6	10	6
No Count ✗	1	1	4	4	11	7	11

Source: Developed for this study

Figure 1.

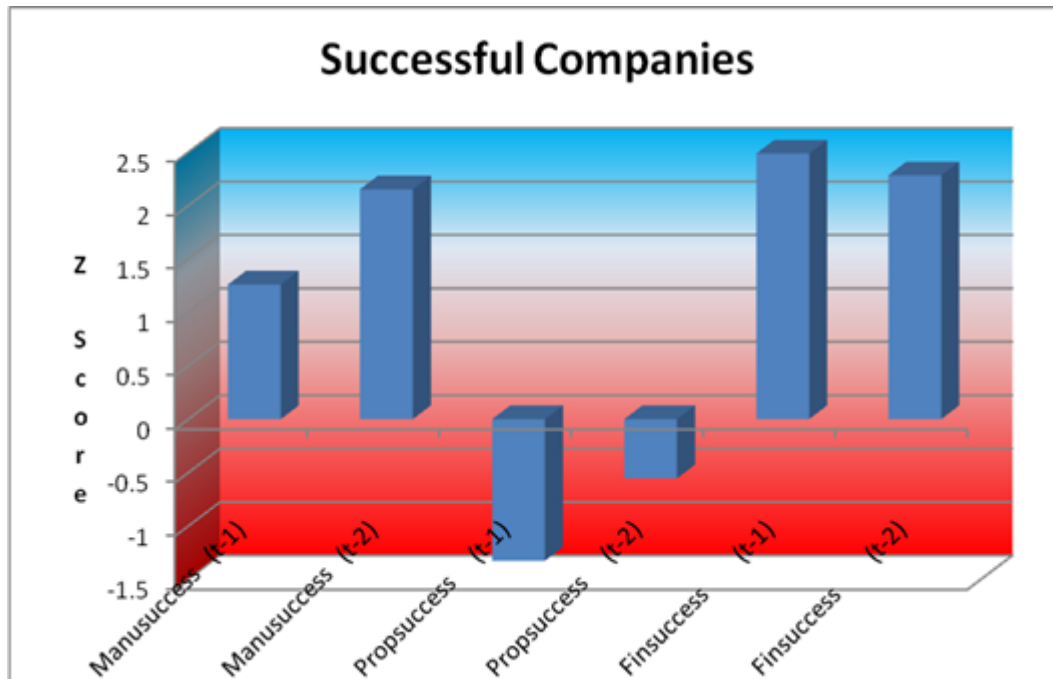
Time delays for historical measurement



Source: Handy (2002)

Figure 2.

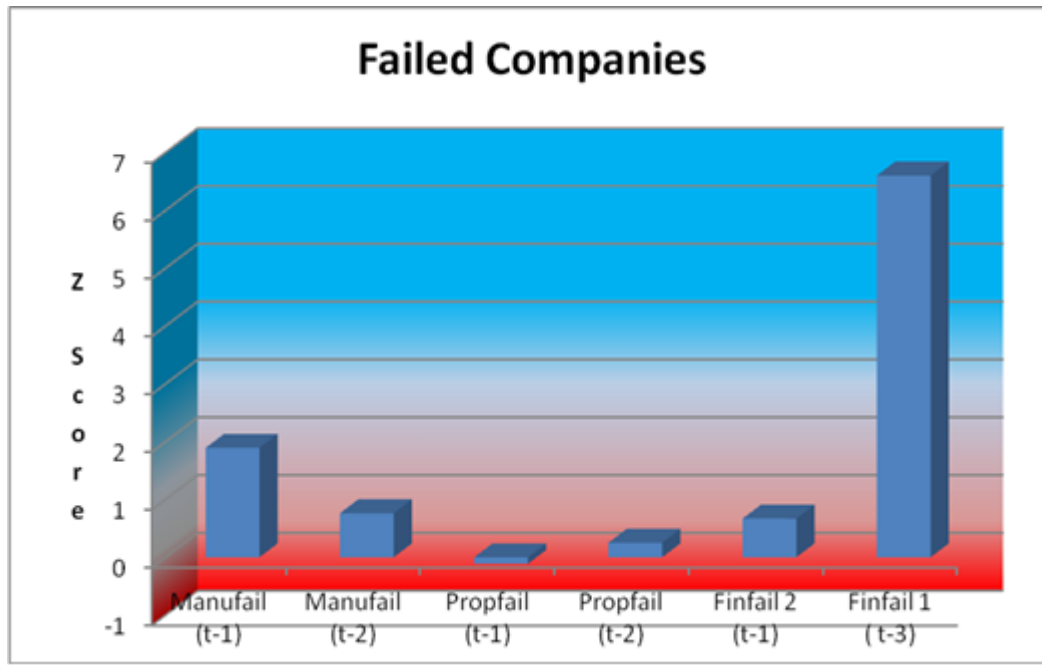
Successful Z-scores



Source: Developed for this study

Figure 3.

Failed Z-scores



Source: Developed for this study

