ORGANIZATIONAL SURVIVAL AND CORPORATE LEVEL DIVERSIFICATION

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Abstract

Is diversification a good strategy for organizations who want to increase their survival likelihood? This question is investigated in a study employing a small sample of failed and non-failed firms and a variety of diversification measures. The results of this study showed a positive relationship between corporate level diversification and survival. However, firm relative market share and financial condition were more important in differentiating survivors from failures. The implication for managers is that it might be important to have their company's finances in order before attempting to diversify.

INTRODUCTION

Is there likely to be a link between corporate level diversification and survival? Levy and Sarnat [26] say that organizations will attempt to diversify into a wide range of industries in order to lower their likelihood of failure. Weston and Mansighka [40] indicated that firms may undertake corporate level diversification to defend against the possibility of a deteriorating industry environment. They suggest that organizations can survive, or at least affect their rate of decline if they react correctly to environmental change. Pfeffer and Salancik [33] and Thompson [39] state that firms can buffer against environmental effects through diversification of the firm's activities or markets. The implication is that more diversified firms should be less inclined to fail. Thus, it can be hypothesized that more diversified firms are more likely to survive.

There are several ways in which diversification should protect the firm against failure. First, diversification via vertical integration may insure supplies or access to markets [33]. Secondly, even if anti-trust regulations may prevent a firm's expansion in its home market it can still expand through diversification and create value for its owners via more effective or efficient use of managerial talent [32]. Thirdly, diversifica-

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tion may not only add to a firm's profitability but would increase a corporation's size. Increased size should permit easier acquisition of credit due to the view that large firms are more dependable [14]. Fourth, diversified firms may have lower systematic risk over time [2] [8]. This is especially so when the firm emphasizes a common core technology [28]. In other words, more diversified firms should be less sensitive to certain fluctuations in the capital markets, particularly if they involve themselves in a range of different but related businesses (for a somewhat opposing point of view see Hill [21]). Lastly, the diversified firm may rely less on a single market to provide revenue such that harmful changes in one or two of the firm's industries would not cause the firm to fail [23] [33].

By studying the relationship between systematic risk and diversification (e.g. see Amit and Livnat [3], Barton [5], Lubatkin and Chatterjee [28]) one can learn a great deal about fluctuations which, if extreme, may lead to firm death. However, such studies are one step removed from directly researching a possible diversification-survival relationship. By looking directly at the levels of diversification of firms which have failed and comparing them with those that survive one should get a better idea as to the effectiveness of diversification in reducing the likelihood of failure. Sheppard's [38] bankruptcy study found little evidence to support the idea that diversification lessens the likelihood of firm failure. However, his study employed only a single measure of diversification. A broader set of diversification measures might give us a clearer picture.

MEASURES

Diversification, by itself, will not necessarily insure that the firm will continue to exist. Organizations exist in a far more complex world. Factors like industry environment, the firm's market share, the firm's size and the firm's general financial condition may all play a role in the chance of survival [38]. The question to be addressed here is whether diversification, in addition to these other factors, plays a significant role in aiding a firm survival.

Organizational Survival

The term "survival" has many connotations -- both subjective and objective. The most objective way to measure survival in organizations is to observe their continuing existence. This is problematic given the nature of mergers and acquisitions [15]. A way of clarifying the matter is to employ a resource dependence approach [33]. An organization survives as long as it "acquires inputs from suppliers and provides outputs to a given public (customers, clients, patients, etc.)."[1] The organization fails

when coalitions of resource providers cannot be induced to supply resources and the firm cannot repay resource providers for past support [38]. There is general agreement among the stakeholders that the firm has failed once it has entered Chapter 11 bankruptcy proceedings [30]. In other words, the firm has failed to return investors' and creditors' capital in the agreed to manner, to provide workers with job security, to provide cities with tax revenues, etc.

So, for the purposes of this study survival is simply non-failure, that is, non-bankruptcy, of an existing organization. Failure will be considered filing for Chapter 11 bankruptcy since such a filing abrogates the arrangements between a firm and its stakeholders and serves to recognize the firm's failure.

Diversification

Researchers have developed two main methods to measure diversification: (1) a classification scheme or topology which judgmentally classifies firms into particular categories (e.g. Rumelt [35]) and; (2) a product count system (e.g. Gort [16], Jacquemin and Berry [24]) which can develop a percentage or ratio to measure the level of diversification. This second measure employs 4-Digit SIC codes in order to determine which industries the firm does business.

A product-count system is quantifiable, more objective and has a significant degree of correlation with Rumelt's more popular classification scheme [29]. For these reasons, this research will employ a product-count system. There are several possible product count measures to choose from in order to measure diversification. The simplest method is to simply count the number of industries in which the firm is involved or look at the percentage of sales which comes from lines other than from the firm's largest industry [16]. Simply counting the number of industries in which the firm does business, or using the percent of the firm's largest business, may give a distorted picture of firm diversification [24]. A way to solve this problem is to weight the largest contributors to firm sales more heavily in the diversification measure. One way to do this is by use of a Herfindahl index [24]. The index uses the formula:

Equation 1

$$D = 1 - \sum_{S=1}^{S} P_i^2$$

Where, D is diversification and Pi is the proportion of the firm's business in a four digit SIC industry i. Note that the more diversified a firm is the higher its score.

However, the Herfindahl index, does not account for any possible integration or relatedness among businesses. This is a basic drawback with most SIC code based product count measures [35]. A way to correct for this and still have a quantifiable diversification measure is to use a modified Herfindahl index to account for related businesses. In order to do this, careful study of the firm's annual reports and other information (10K's, etc.) can be evaluated in order to group the firm's SIC industries into related sets of businesses. The percentage of sales each set of businesses contributes to a firm's total can then be calculated and entered into the Herfindahl formula as Pi. Thus, a firm involved equally in women's footwear manufacture, footwear wholesale and coal mining (SIC codes 3144, 5139 and 1211, respectively) would be grouped into two sets of businesses: shoes and coal mining. This firm would therefore have a modified Herfindahl diversification score of .333 [1-(.67²+.33²+.33²)] and a Herfindahl score of .673 [1-(.33²+.33²+.33²)].

Grouping businesses to account for relatedness in the above way may involve subjective evaluations. This is a basic drawback with most topological diversification measures [29]. In order to objectively take into account the relatedness of the firm's industries researchers have employed a more sophisticated measure called the entropy measure of diversification [3] [24]. In theory, this would help account for synergies available to the firm through diversification. The entropy measure uses the following formula:

Equation 2

$$D_r = 1 - \sum_{s=1}^{s} P_s \ln \frac{1}{P_s} + \sum_{\substack{s=1 \\ i \to s}}^{s} P_i \ln \frac{P_s}{P_i}$$

or

$$D_r = D_a^2 + D_w^2$$

Where DT is total diversification, Ps is the proportion of the firm's business in a two digit SIC industry s, Pi is the proportion of the firm's business in the four digit SIC industry i and ln is the natural log. The equation can be viewed as containing two distinct parts [24], the "across two digit" measure (Da^2) and the "within two digit," or the relatedness component (Dw^2).

In order to achieve a more robust measurement of diversification, all of the following indexes were employed to measure diversity: (1) the

percentage of the firm's non-principle industry sales, (2) a Herfindahl index, (3) a modified Herfinfahl index and (4) the across 2-digit, (5) within 2-digit and (6) total entropy measures. (Due to the possible subjective nature of the modified Herfinfahl index, two independent evaluators calculated scores. These scores were then compared. Where differences occurred, they were found to entail a very small percentage of a firm's sales and were easily corrected by a second evaluation of relevant information.)

As diversification alone may not protect the firm from failure and factors like industry environment, the firm's market share, the firm's size and the firm's general financial condition may all play a role in the organization's chance of survival. These are additional factors which must be taken into account in an analysis of firm survival and failure.

Industry Conditions

The ability of a firm to perform and survive may depend on conditions which exist in the environment [10] [37]. Industry profitability can be used to summarize a number of industry effects [18] and will be used here as a general indicator of industry conditions. Thus, it can be hypothesized that firms involved in more profitable industries are more likely to survive.

While the above hypothesis seems intuitive, recent arguments have been made that indicate industry conditions may not be all that important [36]. It may be that firms exercise substantial "free will" (as D'Aveni [12] calls it) and can overcome problems in the environment (see Hall [20]).

Industry profitability was measured using the weighted average (by sales) percentage Return on Equity (ROE) for each of the firm's four-digit SIC code businesses. Since ROE affects investors' decisions to commit funds, and industries can not survive for long if such funds are unavailable, ROE is seen as the most critical profitability measure. Therefore, industry profitability for a firm was measured via use of ROE for each of the industries in which a company does business. Industry growth was measured using the weighted average (by sales) percentage change in the census value of shipments over five years for each of the firm's four digit SIC code businesses.

It is expected that failed firms would be in less profitable and slower growth industries than non-failed ones. Yet, the simple presence of the firm in a profitable or growing industry is not sufficient to ensure its continued survival. Thus, there are several other factors which must be considered.

Firm Market Share

Market share significantly affects a firm's profitability [7]. Since profitability is necessary for the long run survival of the firm, firms which possess sufficient market share should be able to earn adequate profits in order to stay afloat. However, market share should be viewed in relative terms, i.e. to what extent the firm can control the market relative to other firms in the industry [17]. A somewhat contrary opinion is that only firm's with small (niche) market shares or large (mass product) market shares will perform well [34]. However, as market share relates to survival the present research will take the view that large producers, over time, will force out smaller ones as they seek new domains in to which to expand (e.g. Honda's moves into increasingly heavier motorcycles that decimated the niche British motorcycle manufactures). Therefore, one would expect that firms with larger relative market shares are more likely to survive.

One way to look at relative market share is to compare a firm's market share to the combined market shares of the four largest firms in the industry. This measure gives "an indicator of the extent to which dominant firms can prey on their rivals."[2] Market share has been measured here in terms of market share over the four firm concentration ratio as a weighted average for each of the four digit SIC code industries in which the firm does business. Thus, it is expected that firms with lower relative market shares would be more prone to failure due to decreased power in the market. However, relative market share is not the only dimension of power which may be relevant here. Firm size may also influence the ability of the firm to survive.

Firm Size

The size of the corporation may significantly contribute to its chance of failure. Size is seen as giving the firm power and prestige that can be used to ensure the availability of resources [12] [38] and thus insure survival. The results regarding the size-survival relationship are not all that clear. D'Aveni's [13] failure study did not find significant size effects related to firm survival. However, restrictions on the size of firms used in his sample may have contributed to this outcome. For purposes of the present study, we can expect that larger firms are more likely to survive.

Firm size is usually seen as an amount of firm assets or annual sales [6]. The natural log of sales was the size measure employed in this study. This measure is consistent with other studies (e.g. Christensen and Montgomery, [10]). In addition, growth in the size of the firm was

measured using the natural log of millions of dollars of sales change over the previous five years.

It is expected that smaller firms would be more likely to fail. If smaller firms were truly high risk ventures, they would be not be able to find funding. This is clearly not the case. Small firms are able to acquire capital. Thus, there is one other important factor regarding firm failure. This factor will be referred to as "firm general financial condition."

Firm General Financial Condition

In order to convince capital suppliers to advance funds to the firm, investors or creditors must be assured that they will make a reasonable return. Such assurance exists if the firm is, among other things, financially solvent. Several authors mention net worth over total assets as being a useful solvency indicator (e.g. Chen and Shimerda [9], Sheppard [38]) and this shall be the measure employed here. It is expected that firms with lower net worth to asset ratios to stand a greater chance of failing.

Other Considerations

The presence, absence, and/or radical change of regulation may affect a corporation's chance of survival. For this study, firms which involved themselves primarily in highly regulated or recently deregulated industries were not included. Such industries include utilities, telecommunications, banking, law, medical practice, insurance, and transportation.

Another potential consideration would be the age of the firm. Start-up firms are particularly susceptible to possibility of failure [30]. Thus, firms which have been in existence less than five years were eliminated from this study sample. Additionally, small employment and sales figures are characteristic of start-up firms. Thus, firms that more than five years from possible failure had less than 100 employees or within five years of potential failure had less than $25 million in sales (current dollars) were also eliminated from the sample.

SAMPLE, DATA AND TESTS

A sample of 32 failed firms and 32 non-failed firms were selected for study (see Appendix 1). Failed firms are defined as all those companies which filed bankruptcy petitions between 1983 and 1985. Excluded were firms which were considered to be principally involved in highly regulated industries or were start-up operations. Firms which employed Chapter 11 as a strategic manoeuvre were also excluded (i.e.

A.H. Robins). Surviving firms were those firms which did not file for bankruptcy during the period of study. Survivors were mathematically coded as a "1", and failures were coded as a "0".

Annual reports and 10K's were employed to derive the firm's general financial condition, firm size, and international sales. Firm market share, added and dropped sales lines and diversification data was obtained from the EIS Establishment database for the years 1977 and 1982. Four firm concentration ratios (to calculate relative market share) were obtained from the U.S. Department of Commerce Census Data for 1977 and 1982. Industry profitability figures were obtained from Dunn and Bradstreet's Key Business Ratios.

As was stated above, diversification alone may not protect the firm from failure and factors like firm general financial condition, size, market share and industry environment may all play a role in the firm's chance of survival. The variables can be tested individually (by a t-test) or as part of a larger model using a failure / non-failure dichotomy as the dependent variable. Appropriate methods for testing such a multivariate model are discriminant analysis or logit analysis [11]. Discriminant analysis is the more commonly used variable used in failure studies (e.g. Altman [1]). Logit analysis is a more robust test [27] and was therefore employed in the development of a multivariate model here. Logit analyses were employed to construct predictive models that used the different measures of diversification described above as well as firm financial condition, size, market share and industry environment. In addition, logit analysis was used to construct a multivariate model that used no measure of diversification. Variables were also tested individually by t-tests.

INITIAL RESULTS AND DIAGNOSTICS

Table 1 displays the summary statistics and results of the t-tests for firm, industry and diversification measures. Firm net worth to total assets firm relative market share and firm sales size were all related positively and significantly (t-test $p>.05$) to firm survival. Industry average return on equity was not significantly related to survival. Surviving firms were significantly (t-test $p>.05$) more diversified than failing firms as measured by three of the six diversification measures. The Herfindahl index and the non-principle industry measure showed similar positive results but at a reduced level of significance (t-test $p>.1$). Only the "relatedness component" (within two digit) did not show any significant difference between failed and surviving companies. The diversification measures which showed the most significant difference between failed and surviving firms are indicative of a high degree of unrelated diversification.

The correlations between variables in Table 1 show a significant degree of correlation among the diversification measures. Since all these variables are measures of diversification, this is to be expected. (The exception being the within two-digit entropy measure that is not significantly correlated with the modified Herfindahl index or the across

TABLE 1
Initial Summary Statistics and Correlations

Summary Statistics	Survivors		Failures		Differences		
	Mean	S.D.	Mean	S.D.	T-Test	Sig.	Exp.
Firm Net Worth/Assets	49.290	13.744	21.938	24.792	5.46	.000	* *
Firm Rel. Mkt. Share	9.441	9.676	4.889	6.055	2.26	.028	* *
Firm Sales Size	5.562	1.315	4.702	1.306	2.62	.011	* *
Ind. Return on Equity	15.263	3.211	16.480	3.392	-1.47	.146	
Div. Non-Principal Ind.	45.163	24.953	33.625	24.575	1.86	.067	*
Div. Herfindahl Index	.573	.269	.445	.274	1.89	.064	*
Div. Modified Herf.	.238	.291	.074	.133	2.90	.005	* *
Div. Entropy Total	1.329	.765	.912	.703	2.27	.027	* *
Div. Ent. Across 2D.	.924	.540	.570	.602	2.48	.016	* *
Div. Ent. Within 2D.	.406	.422	.343	.367	.64	.527	*

Correlations [a]		FWTA	FRMS	FSSZ	IROE	DNPI	DHIX	DMHI	DETL	DEA2
Firm Worth/Assets	FNTA									
Firm Rel.Mkt.Share	FRMS	.086								
Firm Sales Size	FSSZ	.168	.402							
Ind. Return / Equity	IROE	-.046	-.046	-.189						
Non-Princpl.Ind.	DNPI	.066	-.003	.311	-.130					
Herfindahl Index	DHIX	.073	-.011	.356	-.109	.980				
Modified Herf.	DMHI	.118	.234	.495	-.019	.470	.491			
Entropy Total	DETL	.109	.090	.517	-.146	.917	.922	.600		
Ent. Across 2D.	DEA2	.106	.002	.449	-.094	.748	.759	.617	.858	
Ent. Within 2D.	DEW2	.050	.170	.317	-.140	.637	.630	.224	.630	.142

[a] Correlations above .3 are Significant beyond .01.

* T-test results are in the expected direction.

** T-test results are as expected and significant beyond .05.

Shaded area contains correlations between diversification measures.

two-digit entropy measure. Since the within two-digit entropy measure is a measure of relatedness a less significant degree of correlation with the diversification measures is to be expected.) In addition, the correlations between the other variables in Table 1 show a significant degree of correlation between firm size, relative market share and many of the various diversification measures. If such inter-correlations are sufficiently severe, it will be impossible to produce valid logit analyses results [41]. However, even if the logit analyses do produce results, there is the troubling fact that one may be uncertain as to exactly what one is measuring (e.g. if relative market share is found to be a significant predictor of failure then can one say the firm is less likely to fail because it has greater market share or because it is simply a larger firm).

A simple way to address this problem is to use a principle components analysis to transform the variables such that correlations are eliminated [31]. The use of principle components analysis for this purpose has been questioned since the resulting variables may not be easily understood [22]. However, after applying principle components analysis on the data used here it was found that the resultant components were quite clearly defined (see Appendix 2). In all cases, the main factor loading into each component was not less that .91 and the subsidiary factor loadings were never more than .28. Thus, the following logit analyses were performed using the standardized principle components results.

LOGIT ANALYSIS RESULTS

Table 2 displays the results of the logit analyses for the base, non-principle industry and Herfindahl models. For each model parameter estimates, their significances and R-Squares are shown. Additionally the predictive ability of each model is shown in a standard failed/non-failed format (see Altman [1]). In order to translate the logit probabilities of survival into this format a .5 cut-off has been used. All models have a predictive ability better than the naive guess (50%) and models which include some diversification variable are somewhat better predictive models than the base model.

In all of the above models the net worth to assets component possessed the highest level of significance. Relative market share, size and diversification components also demonstrated a high level of significance in the logit equations. All four variables related positively to the survival of the firm, as was expected. Unexpectedly, the industry ROE component related negatively to firm survival. This component,

TABLE 2

Results of the Logit Analyses on the Base, Non-Principle Industry and Herfindahl Models

Variables:	**Base Model**		**Non-Principle Industry Model**		**Herfindal Model**		**Modified Herfindal Model**	
	Estimate	(Sig.)	Estimate	(Sig.)	Estimate	(Sig.)	Estimate	(Sig.)
Firm Diversification			0.950	(.05)	0.962	(.05)	1.114	(.05)
Firm Rel. Mkt. Share	1.263	(.05)	1.626	(.005)	1.659	(.005)	1.323	(.01)
Ind. Ret. / Equity	–0.613		–0.560		–0.589		–0.565	
Firm Worth/Assets	2.727	(.001)	3.048	(.001)	3.049	(.001)	2.779	(.001)
Firm Sales Size	1.115	(.05)	1.061	(.05)	1.022	(.05)	0.947	(.05)
Constant	–0.343		–0.281		–0.256		–0.256	
R-Squared	.494		.541		.546		.526	

Predictive Accuracy

Failed = 0

Survived = 1

Actual	Predicted 0	Predicted 1
0	25	7
	78%	22%
1	7	25
	22%	78%
Average		78.1%

Actual	Predicted 0	Predicted 1
0	26	6
	81%	19%
1	5	27
	16%	84%
Average		82.8%

Actual	Predicted 0	Predicted 1
0	25	7
	78%	22%
1	3	29
	9%	91%
Average		84.4%

Actual	Predicted 0	Predicted 1
0	25	4
	78%	12%
1	4	28
	12%	88%
Average		82.8%

ROE component related negatively to firm survival. This component, however, was not a significant factor in the logit equation. All logit results were consistent with results of the individual t-tests. Thus, one can be reasonably assured that surviving firms have higher levels of net worth to assets, relative market shares, size and diversification (as measured above). The assertion is true whether the measures are studied alone (as in t-test) or conjointly (as in the logit analysis).

Models employing entropy measures are shown in Table 3. The models shown are based, as before, on relative market share, industry ROE, net worth to assets firm size and diversification and a different variation of the entropy measure for each model. In the first model shown in Table 3 the total entropy score (the across two-digit score plus the within two-digit score) was used. The second model employed the across two-digit component of the entropy score. The third model used ROE, net worth to assets firm size and diversification and a different variation of the entropy measure for each model. In the first model shown in Table 3 the total entropy score (the across two-digit score plus the within two-digit score) was used. The second model employed the across two-digit component of the entropy score. The third model used the within two-digit component of the entropy score. The final model uses each part of the entropy score separately in the analysis. Again, principle components analysis was been employed to remove possible correlation problems and the components were then used in the logit analysis.

In all of the entropy models, the net worth to assets component possessed the highest level of significance. Relative market share and size components also demonstrated a fairly high level of significance in the logit equations. All three variables were, as expected, related positively to the survival of the firm. As in non-entropy models, the industry ROE component was negatively, though not significantly, related to firm survival.

The Table 3 results indicate that diversification is positively and significantly related to survival in all cases except when the within two-digit entropy measure (the "relatedness component") was employed. Thus, in this model, diversification was most significant in differentiating survivors when a high degree of non-relatedness was involved. These results are consistent with the results of non-entropy diversification measures and the individual t-tests. Therefore, one can be reasonably assured that failed firms have high levels of net worth to assets, relative market share, size and Diversification. The assertion is true whether the measures are studied alone (as in t-test) or conjointly (as in the logit analysis) and they are true across a wide variety of diversification measures.

TABLE 3

Results of the Logit Analyses on the Entry Models

Variables:	**Total Entropy Model**		**Entropy Across 2 Digit Ind. Model**		**Entropy Within 2 Digit Ind. Model**		**Entropy Across & Within Model**	
	Estimate	(Sig.)	Estimate	(Sig.)	Estimate	(Sig.)	Estimate	(Sig.)
Firm Div.: Across Ind.	0.990	(.05)	1.062	(.05)	0.327		1.068	(.01)
Within Ind.							0.233	
Firm Rel. Mkt. Share	1.533	(.01)	1.453	(.01)	1.283	(.01)	1.436	(.01)
Ind. Ret. / Equity	–0.574		–0.620		–0.602		–0.619	
Firm Worth/Assets	2.873	(.001)	2.803	(.001)	2.741	(.001)	2.793	(.001)
Firm Sales Size	0.950	(.05)	0.910	(.05)	1.0087	(.05)	0.877	(.05)
Constant	–0.268		–0.311		–0.332		–0.319	
R-Squared	.524		.541		.546		.526	
Predictive Accuracy	Predicted		Predicted		Predicted		Predicted	
	Actual 0: 26 (81%), 6 (19%)		Actual 0: 27 (84%), 6 (16%)		Actual 0: 25 (78%), 7 (22%)		Actual 0: 26 (81%), 6 (19%)	
Failed = 0	Actual 1: 6 (19%), 26 (81%)		Actual 1: 5 (16%), 27 (84%)		Actual 1: 7 (22%), 25 (78%)		Actual 1: 5 (16%), 27 (84%)	
Survived = 1	Average	81.3%	Average	82.8%	Average	78.1%	Average	82.8

DISCUSSION AND CONCLUSION

Early in this study, the question was raised as to whether there is a link between organizational survival and diversification. The sample of failed and non-failed firms studied here shows that failed firms are less diversified than non-failed firms. Thus, there is some validity to the advice given by some researchers (e.g. Pfeffer and Salancik [33], Weston and Mansighka [40]) that buffering the firm against environmental effects through diversification may reduce the chance of firm demise.

Several factors, however, were more important than diversification in aiding firm survival. Principally, strong firm financial condition was the best assurance for survival. Performing those tasks which would promote healthy corporate financial condition would be first on the list of items to insure firm survival. Thus, Argenti's [4] argument that strong financial controls are needed to avoid failure is supported. Such controls should aid in achieving a strong financial condition. Relative market share was also of great importance in differentiating survivors from failures. Those who have argued that factors such as market share may be more important than diversification [10] are, with regard to firm survival and failure, also supported here. Firm size also played an important role in differentiating survivors from failures. Size can be seen as playing the role of a stabilizer such that the organization can understand environmental shocks [19].

In light of Rumelt's [36] recent study, the results regarding industry profitability may not be all that surprising. Rumelt found that differences between businesses, rather than the industries they were in, accounted for a large proportion of the variances in financial performance. The results shown here show the destiny of the firm is not entirely controlled by the vulgarities of the environment. This is not to say that managers have total control of their fate (as D'Aveni [12] argues). A manager upon taking the job inherits the firm's historic market share, its equity base and its size. All these factors contribute to its likelihood of survival. These firm specific factors, however, have more to do with the firm's life or death than its environment.

A more critical question is whether a manager who wishes to insure the survival of his or her organization should undertake corporate level diversification. Such an undertaking is obviously ill-advised if the organization does not have has a healthy equity base and strong financial controls. The lack of such an equity base and controls may result in stretching the resources of the firm to the breaking point (see Argenti [4] for a detailed discussion). Achieving a diversified but insolvent firm is not an optimal goal. The results shown here also indicate that increasing the firm's market share and size might be a better way than diversification to insure firm survival. Again, the caveat of having a good financial base to start from is essential.

Attempts to expand the size, or market share of the firm faster than the financial base allow may result in disaster [4] [25].

If the firm does not have a healthy equity base, the route the firm follows will probably have more to do with consolidation and turnaround than with diversification and expansion. Thus, diversification, in light of other factors shown here, can be undertaken when the firm is doing well in order to insure its future survival. Diversification is more ill-advised if the firm is on its last legs and looking for a way to survive. (Diversification is not a life preserver but rather part of outfitting a good boat; best done when one is in a safe harbor and not in the midst of the storm.) Longitudinal studies into the changes in firm diversification over time may give us a better idea as to the effects of strategic diversification on survival.

ENDNOTES

1 Delacroix and Carroll [15]. Page 276.

2 Hansen, and Wernerfelt [18]. Page 403.

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APPENDIX 1
Sample Firms

Failed Firm Names	Surviving Firm Names
Altec Corp.	Atwood Oceanics Inc.
AM International Inc.	Axia Inc.
Berry Industries Corp.	Caressa Inc.
Charter Company	Clark Consolidated Industries
Commodore Corp.	Commercial Shearing Co.
Consolidated Packaging	Continental Group Inc.
Cook United	Donaldson Co.
Crompton Co.	Economics Laboratory Inc.
CS Group Inc.	Grand Auto Inc.
Edmos Corp.	H. B. Fuller Co.
Evans Products Co.	Haverty Furniture Companies
Flanigan's Enterprises	Hill Bros. Inc.
Hardwicke companies inc.	Jacobs Engineering Group
Koss Corp.	Kay Corporation
K-Tel International Inc.	Levi Strauss and Co.
Leisure Dynamics Inc.	Litton Industries Inc.
Mesta Machine Co.	Mark Controls Corp.
Mobile Home Industries	Minnesota Fabrics Inc.
Nexus Industries Inc.	Mitchell Energy & Development
Opelika Manufacturing	National Can Corp.
Rath Packing Co.	Oil Dri Corp. of America
Roberts and Porter Inc.	Philips Industries Inc.
Robintech Inc.	Rohm and Haas Co.
Roblin Industries Inc.	Rollins Inc.
Salant Corp.	Sanders Associates Inc.
Schaak Electronics Inc.	Steego Corp.
Steelmet Inc.	Suave Shoe Corp.
Storage Technology Corp.	Synalloy Corp.
Texscan Corp.	Technical Tape Inc.
Tidwell Industries Inc.	Texas Industries Inc.
Transcontinental Energy	Union Camp Corp.
Wheeling Pittsburgh Steel	Wausau Paper Mills Co.

NOTE: The above lists are in alphabetical order and are not intended to represent a matching of firms.

APPENDIX 2
Results of the Principle Components Analyses

Model / Variable Names			Rotated Factor Matrix				
			Div. PCs	FRMS	IROE	FNTA	FSSZ
Base	Firm Rel. Market Share	FRMS		.979	–.014	.036	.201
	Ind. Return on Equity	IROE		–.014	.996	–.019	–.090
	Firm Worth / Assets	FNTA		.035	–.019	.996	.078
	Firm Sales Size	FSSZ		.207	–.097	.084	.970
NPI	Non-Principle Industry	DNPI	.985	.071	–.065	.018	.146
	Firm Rel. Market Share	FRMS	.072	.978	–.013	.036	.194
	Ind. Return on Equity	IROE	–.063	–.013	.994	–.019	–.085
	Firm Worth / Assets	FNTA	.017	.035	–.019	.996	.075
	Firm Sales Size	FSSZ	.158	.206	–.094	.084	.958
HIX	Herfindahl Index	DHIX	.983	–.024	–.048	.031	.173
	Firm Rel. Market Share	FRMS	–.025	.979	–.015	.037	.198
	Ind. Return on Equity	IROE	–.047	–.015	.995	–.019	–.084
	Firm Worth / Assets	FNTA	.030	.036	–.019	.996	.073
	Firm Sales Size	FSSZ	.193	.218	–.096	.083	.948
MHI	Modified Herfindahl	DMHI	.966	.099	.003	.052	.235
	Firm Rel. Market Share	FRMS	.096	.978	–.015	.035	.182
	Ind. Return on Equity	IROE	.001	-.015	.996	–.020	–.087
	Firm Worth / Assets	FNTA	.048	.034	–.020	.996	.069
	Firm Sales Size	FSSZ	.260	.207	–.104	.082	.934
ETL	Entropy Total	DETL	.965	.020	–.066	.047	.248
	Firm Rel. Market Share	FRMS	.021	.981	–.015	.037	.187
	Ind. Return on Equity	IROE	–.062	–.015	.995	–.019	–.078
	Firm Worth / Assets	FNTA	.044	.036	–.019	.996	.068
	Firm Sales Size	FSSZ	.283	.223	–.095	.083	.925
EA2	Entropy Across 2 Digits	DEA2	.974	–.023	–.039	.047	.219
	Firm Rel. Market Share	FRMS	–.022	.980	–.015	.038	.195
	Ind. Return on Equity	IROE	–.037	–.015	.996	–.019	–.082
	Firm Worth / Assets	FNTA	.045	.036	–.019	.996	.069
	Firm Sales Size	FSSZ	.249	.226	–.098	.082	.933
EW4	Entropy Within 2 Digits	DEW2	.985	.071	–.065	.018	.146
	Firm Rel. Market Share	FRMS	.072	.978	–.013	.036	.194
	Ind. Return on Equity	IROE	–.063	–.013	.994	–.019	–.085
	Firm Worth / Assets	FNTA	.017	.035	–.019	.996	.075
	Firm Sales Size	FSSZ	.158	.206	–.094	.084	.958
E24	Entropy Across 2 Digits	DEA2	.974 .058	–.023	–.038	.047	.211
	Entropy Within 2 Digits	DEW2	.057 .985	.074	–.065	.017	.132
	Firm Rel. Market Share	FRMS	–.022 .074	.979	–.014	.038	.186
	Ind. Return on Equity	IROE	–.037 –.063	–.014	.994	–.019	–.077
	Firm Worth / Assets	FNTA	.045 .017	.036	–.019	.996	.067
	Firm Sales Size	FSSZ	.251 .160	.225	–.095	.083	.919