THE IMPACT OF PAST PATTERN OF STRATEGIC CHANG ON FIRM'S FUTURE STRATEGIC CHANGE IN THE US MOTOR CARRIER INDUSTRY

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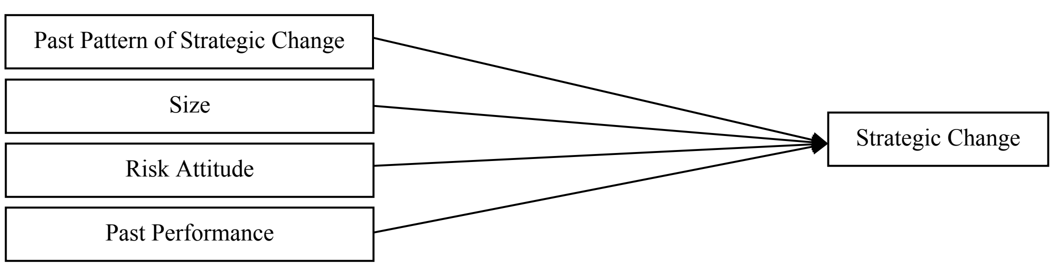
ABSTRACT

The factors that influence a firm's strategic change are well discussed in previous literature. This paper extends Feitler (1997) by examining how a past pattern of a firm's strategic change affects a firm's future strategic change behavior. Thus, this study tests if the accumulated firm's pattern of strategic change continues in the future.

INTRODUCTION

Feitler et al. (1997 and 1998) examined the driving factors of a firm's strategic change. Amont the factors, Feitler (1997) observed a firm' annual frequencies of strategic changes to predict a magnitude of next year strategic changes. In this study, we wonder whether a longer period of strategic change observation may also be effective in predicting a firm's strategic change because strategic change behavior may be formed and better measured over a longer period time rather than over a short term such as a year. We will use the frequency of strategic change over multiple years in the past to predict the magnitude of strategic change in future. Organization learning theory argues that the profile of prior firm action will predict future firm action (Barnett et al. 1996). While we test the same relationship of Feitler's study (1997) (Figure 1), the major difference from Feitler's study (1997) is to replacement of annual strategic change size with firm's past pattern of strategic change over a longer period (9 years).



[Figure 1] The framework of the hypotheses

THEORIES AND HYPOTHESIS

The motivation of strategic change is to optimize a firm's position in response to industry change by aligning a firm between its internal fit and external fit. It is necessary to orient a firm's strategy by adjusting strategic dimensions that contribute to differences among firms (Thomson (1967; Smith and Grimm, 1997), that is strategic change. Feitler (1997) identified two groups of drivers affecting a firm's strategic change. They are internal drivers and external drivers. The external drivers are macro level factors such as environmental changes, industry turbulence and legislative framework. This is consistent with that firm's change should be coinciding with changes in business environment (Zajac et al., 2000). The internal factors are firm's characteristic such CEO characteristics, firm age, inertia (past strategic change pattern), prior performance and size. Feitler (1997) argues that internal factors driver can also predict firm's strategic changes. This study develop hypothesis to complement Feitler's papers (1997).

Firms with the previous pattern of greater strategic change in the past are more likely to have greater incumbent strategic change. Amburgey et al (1993) supported the idea that an organization with the greater number of prior changes is more likely to change in the newspaper industry. In the transportation industry, Kelly and Amburgey (1991) noticed that airlines that made strategic change continued to change their strategy. Feitler (1997) tested the relationship with the frequency of strategic change as measured by the average number of yearly strategic changes of previous year. Firms that are both able and willing to change strategy in the past tend to change their strategy continually in the future (Hannna and Freeman, 1984). Hannna and Freeman (1984) define ability as flexibility and willingness as agreed desire among organization members. Both of them are a firm's long accumulated characteristics over a long period. Firm's characteristics that formed over a long time are hardly discontinued over a day. In this research, we argue that the magnitude of strategic changes over a longer period rather than a previous year's frequency is used to predict the magnitude of future strategic changes.

H1: The greater magnitude of past strategic change firm has, the greater will be the strategic change.

Firm's size is often considered to influence a firm's change (Hannan and Freeman, 1984). Haveman (1993) discussed that extra resource that often increases with firm's size would let a firm to change more. In contrast, when a firm becomes larger, firm's organizational bureaucracy increases and its responsiveness to environmental changes decrease (Grimm et al 1993). One of the benefits that a firm increases its size is the economy of scale to achieve efficiency in its operation. This method often encourages a firm to own fixed assets. Once a firm is heavily involved with specific fixed assets, it is costly to adjust its strategy that is constrained by the immobility of those assets (Gulati and Singh, 1998). Nickerson and Silverman (2003) argued that firms with specific assets change small and slow. In fact, it is argued that larger firms are less likely to change than smaller firms (Kelly and Amburgey, 1991; Grimm, Corsi and Smith, 1993). However, the same relationship was not supported in Feitler et al (1997). With these arguments, it can be hypothesized as following.

H2: The smaller a firm size is in a previous year, the greater will be the strategic change

A firm's attitude toward risk signals firm's willingness and capability to change its strategy. Firm's financial leverage reveals firms' aggressive willingness and capability to change its strategy with more financial investments. The prospectors defined as the most innovative firm in Miles and Snow's typology (1978) are more responsive. In the same reasoning, higher risk is often employed by firms that are willing to change its strategy and to produce better performance. Risk has a positive relationship with organizational change (Kanter, 1983). Firms with a risk-taking attitude often have higher performance (Bromiley, 1991). Galbraith and Schendel (1983) found that low risk attitude was associated with firms following a 'continuity' strategy. Thus, when a firm is more risk taking, it is more likely to have more strategic changes.

H3: The greater risk taking attitude in a previous year a firm has, the greater will be strategic change

Poor performance motives firm to correct and reorient firm's strategy. The past history was identified as the key factors driving the firm's strategy change (Cyert and Grunberg, 1963). Psychological persistence based on its good performance in the past less motivates firms to change its strategy. Firms with successful performance tend to be persistent with their current strategy that produced the successful performance (Audia, Locke and Smith, 2000, Oster, 1982). In the same idea, when the current strategy doesn't produce good performance, firms intend to replace the current strategy with new strategy (Ginsberg, 1988; Boeker, 1989; Zajac and Shortell, 1989). This is because poor performance in the past motivates or forces a firm to alter the incumbent strategy that produced the poor performance (Ginsberg, 1988). Based on these arguments, it can be hypothesized as following.

H4: The poorer performance in a previous yea a firm has, the greater will be the strategic change.

SAMPLE AND MODEL

The source of the sample data is the Motor Carrier Annual Reports of American Trucking Association. These reports are the nationwide collection and include both operational and financial information on motor carriers. The observation unit is an individual motor carrier and the final number of the observation is 151 motor carriers that are categorized as truck load (TL) general freight carriers. TL trucking firm is defined as a firm whose LTL revenue is less than 40% of its total revenue, which is consistent with Feitler's work (1998). The dependent variable is a firm's strategic change between 2002 and 2003 (SCI0203). The first independent variable is a firm's strategic changes between two end points, 1994 and 2002 (SCI9402). The other variables are the firm's previous year's characteristics such as size, risk and past performance. Time lag is used to allow an enough time between the independent variable strategic change (1994~2002) and the dependent variable strategic change (2002~2003).

$$SCI0203 = \beta_0 + \beta_1 SCI9402 + \beta_2\ Size02 + \beta_3\ Risk02 + \beta_4\ PastPerform02$$

SCI9402: it is firm's past pattern of strategic change. It is measured by magnitude of strategic changes (SCI). This magnitude of strategic change was measured in the same way it was in Feitler's paper (1997), which is SCI (Strategic Change Index). In her research, firm's yearly strategic position calculated by comparing a firm's standard deviation to an industry's mean for all six dimensions respectively (cost, efficiency, price, product niche, risk, service and size). For the observation of nine-year period strategic changes, we subtracted each dimension in 1994 from its counterpart dimension in 2002 to obtain the difference between these two years. Then, the absolute values of each dimension's differences were summed up to produce a firm's unique SCI. If SCI is measured between 2002 and 2003, it is called SCI0203.

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- Size02: it is a good proxy for various firms' characteristics (Corsi et al. 1991) and measured by operation revenue.
- Risk02: it is supposed to measure firm's intention to improve their business through financial leverage (Smith et al., 1990, Corsi et al., 1991). Each year's ending liability divided by equity was used as risk indicator.
- PastPerf02: the performance change of trucking carriers is measured by the difference of operating ratio (= operation expense / operation revenue) between two years. Operating ratio has been used as an indicator to show the profitability of trucking firms in the previous literature (Corsi et al., 1991; Feitler, 1998). Smaller ratio indicates better performance.

RESULTS

The result of the empirical test is summarized in Table 1.

Table 1: Regression results for strategic change (SCI0203)

Variables	Coefficient	Std. Error	t-Value
SCI9402	.18	0.37	4.89
Size02	-4.21	5.15	-0.82
Risk02	0.32	0.12	2.57
PastPerf02	4.42	2.26	1.95
Number of Observation = 151, R-squared = 0.2190, Adj R-squared = 0.1976			

H1 tested the impact of the past pattern of strategic change over the nine-year period from 1994 to 2002 (SCI9402) on the strategic change that happened between 2002 and 2003 (SCI0203). The regression results supported the idea that the 9 year pattern of firm's strategic changes affects a firm's future strategic change. H2 examined the impact of another form of inertia, firm's size, on firm's strategic change (SCI0203). While the result showed a negative sign as expected, it wasn't statistically significant because t value is very low. Thus, H2 was not supported. H3 tested the relationship between the previous year's firm's risk (risk02) and the next year's strategic change (SCI0203). The result showed that risk is still a good indicator signalizing a firm's willingness and capacity to change its strategy. H4 tested the impact of previous year's poor performance (PastPerf02) on a following year's firm's strategic change (SCI0203). As expected, the result supported its negative relationship with t value 1.67.

CONCLUSION

We test the past pattern of firm's strategic change, which is another organization's embedded pattern of incessantly orienting its strategy to business environmental changes. The result successfully supported the idea that firms tend to maintain its behavior of strategic change that is formed over multiple years and may imply that firms actually benefit from changing their strategy (positive feedbacks encourage firms to maintain this pattern). This is consistent with the organization learning theory arguing that the profile of prior firm action will predict future firm action (Barnett et al. 1996). The relationship between size and strategic change was not supported. Being not consistent with most of previous literature (Grimm et al., 1993), this outcome is consistent with Feitler's finding (1998) that smaller size firms' change was overwhelmed by larger size firms' change. For the future research, including external factors can extend this study. This study wasn't able to test the impact of external factors such as the number of competitors and economic situations as suggested in Feitler's study (1997).

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