Co-alignment between Environment Risk, Corporate Strategy, Capital Structure, and Firm Performance: An Empirical Investigation of Restaurant Firms

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Abstract

The importance of testing the co-alignment model has been emphasized by several researchers in the past. The present study is an attempt to test the model using theories in corporate finance and strategic management, which will also prove the commonalties that exist between these domains of business research. This will help support the arguments of some researchers in the hospitality industry who have stressed the importance of assessing the firm's strategies using concepts in finance. The overall objective of this study is to test the viability of the co-alignment model using strategic management and corporate finance theory.

The present study identifies the dimensions and variables using prior research within each of the constructs studied under the management and corporate finance domains, *vis-a-vis* environment risk, corporate strategy, capital structure and firm performance. The relationship between the constructs and dimensions were tested for the dependencies between them using surrogates used in prior research through *a priori* hypothesized relationships. The unit of analysis was the corporate level, and hence, the study included corporate level data of restaurant firms. The research design included cross-sectional data of restaurant firms that were averaged across an *a priori* defined time period. These firms were selected based on certain criteria that helped control for country effects and industry effects. Therefore, the publicly traded firms selected as part of the sample were based in the U.S. serving markets predominantly within the country.

The statistical analysis was conducted using cross-sectional regression. Results indicate that a high variance in firm performance is explained by the co-alignment between environment risk, corporate strategy, and capital structure. Furthermore, the hypothesized relationships between variables that represent the constructs hold good while using accrual and cash flow returns as surrogates of firm performance. This key finding provides the base for future research efforts, which could focus on developing the model through the use of surrogates that are used in both strategic management and corporate finance research. Also, the sample could be extended to include privately owned restaurant firms that serve markets within the U.S., which will help improve the generalizability of the co-alignment model.

Dedication

I wish to dedicate this effort to my family. The love, encouragement and support I received from my parents, Unnikrishnan and Radha Nair, my brother Dinesh Chatoth and my sister Roopa Nair, were instrumental in pursuing my goals during my entire career. I am also thankful to my sister-in-law Malini Chatoth and my brother-in-law A.V. Pradeep for their support.

I wouldn't have pursued and completed this education successfully if it were not for my wife Raji Menon and my son Harish Menon, who were the pillars of love and support during my education. Raji encouraged and helped me focus on my work during this phase.

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Chapter 1

Introduction

Problem Statement

Strategic management researchers have been proponents of the theory that provide support to the relationship between the environment, firm strategy, structure, and performance. Several management researchers of the likes of Dill (1958), Chandler (1962), Lawrence & Lorsch (1967), Jurkovich (1974), Miles & Snow (1978), Porter (1980, 1985), Bourgeois (1980, 1981), Hambrick (1981, 1983), Dess & Davis (1984), Dess and Beard (1984), Mintzberg (1988), Miller (1986), Hamel & Prahalad (1991), Kotha & Valdamani (1995), and others have directly or indirectly made attempts to theorize the effects of single or multiple constructs, *vis-a-vis* the firm environment, strategy, and structure on firm performance. These efforts have led to the incremental development of the strategic management literature that stress on the relationships between the constructs mentioned above.

The developments in the management literature have had a significant impact on hospitality research, especially in the late eighties and early nineties. These developments were focused around the concept of strategic planning and stressed more on the environmental school of thought, which laid emphasis on the role of the environment in formulating and implementing strategies that have an impact on firm performance. Some of the research work done in the late eighties was aimed at testing the model of Porter (1980, 1985) and Miles and Snow (1978) in terms of the effects of competitive strategy on firm performance. The focus of the studies undertaken by researchers such as Dev (1988), Tse (1988), West (1988), Crawford-Welch (1990), Murthy (1994), and Jogaratnam (1996) was on testing the relationships between two or more of the constructs, *vis-a-vis* the environment, firm strategy, structure, and performance in the hospitality setting. Other efforts of the likes of Schmelzer (1992) delved into firm structure and tried to explain the components of organizational structure that have an effect on strategy and performance of firms.

Although none of the research efforts could confirm the relationship between one of more of the constructs purported by management theorists, these efforts were significant in that they incrementally added to the hospitality literature on strategy. What emerged from these individual research efforts was the concept of the "Co-alignment Model," which Olsen, West, and Tse (1998) delve into in more detail in their book titled "Strategic Management in the Hospitality Industry." The theoretical underpinnings of the model[1] explicate the co-alignment between the environment domain, competitive methods, core competencies, and firm performance, considered to be the recipe for firms' success.

[1]The co-alignment model is explained in more detail in chapter 2.

While it is important to underline that the model has not been empirically verified in the hospitality industry setting, the efforts to test the model was based on management theory. The constructs and variables that were used to test the relationship among them were developed in tandem with concepts in strategic management that have evolved since this stream emerged in the late fifties. It needs to be pointed out that the co-alignment model has not been tested in conjunction with financial theory in the hospitality industry setting as well as the corporate finance research domain. In other words, the constructs and variables that emerge from theories in corporate finance have not been used to test the co-alignment model in its entirety. Prior work in the corporate finance research domain has not explored the relationship between the constructs identified within the co-alignment model taken as a whole.

There is need for researchers to use corporate finance theory to test the co-alignment model as the underpinnings of strategy research is based on the fundamentals of economics and finance that emerge from concepts on theory of the firm. Business entities, whether manufacturing or service based, thrive because of the value they add to their existing resources, which lead to stakeholder satisfaction. The process of value addition has been explained by strategy researchers through the use of industrial economics, population ecology, transaction cost economics, as well as the resource-based view, game theory and other domains of strategy theory. Whereas these domains are developed from fundamentals in economic theory, the concepts within these domains have been defined using the theories developed over several years of applied research in management and strategy. To the extent that management researchers have developed these concepts that have contributed to the evolution and growth of the management literature, they have moved away from the concepts in corporate finance to explain theories in strategy and management. Although, management researchers have used among other theories agency cost and resource based view of the firm to explain the concepts that form an integral part of theories in corporate finance, the key underpinnings of corporate finance used to explain strategies of firms have been sparse (Barton & Gordon, 1987).

The above approach can be developed in a systematic manner through the use of theories that explain the value addition concepts in finance. For instance, environment risk, corporate strategy, capital structure, and firm performance are constructs that are used in both strategy and corporate finance domains. Although both these domains reflect similarities in the definition of constructs, there seems to be a difference in how the variables that represent these constructs are defined. It could be argued that the differences in how the variables are defined using the strategy and finance literatures are based on the theory itself that set these domains apart. However, it should be noted that both domains emphasize on the premise that firms which succeed are able to add value to their existing set of resources on the long-term through effective management of these resources. Different theories are emphasized upon in both these domains to prove the point, but the bottomline to the effective management of firms is the way resources are managed. This common ground that overlaps the two disciplines needs to be researched, which will throw light on the concepts and theories that overlap the two domains and will

further help explain the interaction between the constructs, dimensions, and variables considered as key to firms' success. This study is one such step taken in that direction.

Based on the premise that the overarching concepts in the strategy literature have been theorized on the same lines that theories in corporate finance have been developed, it becomes essential to determine the commonalties that exist between the concepts. The co-alignment model is the umbrella under which concepts in strategy and finance will hold good, in that the model will help explain the relationships between the constructs and variables under these two domains that share a common ground. The reasons outlined in the previous paragraph coupled with the need to test the empirical viability of the co-alignment model are the precursors to this effort, which is to test that there exists a co-alignment between the constructs identified in corporate finance theory that pertain to environment risk, corporate strategy, capital structure, and firm performance in the context of the hospitality industry.

Furthermore, the need to test the co-alignment model in context to concepts in corporate finance is more pronounced due to the lack of prior research efforts that have tested the relationship between the constructs identified within the model. Although there has been work done in corporate finance to test the relationship between, for instance, environment risk and firm performance, by and large, these constructs have been tested using a single dimension and not the multidimensional effects of the independent variables on the dependent variable using the same sample.

For instance, the study on the effects of inflation rate on capital structure typically entails the use of one independent variable (inflation rate) pertaining to the environment construct, and its impact on the dependent variable, i.e. capital structure operationalized using ratios depicting the use of debt and equity (e.g. debt ratio, and debt to equity ratio) (e.g. Staking and Babbel, 1995). This is evident in studies that entail testing the relationship between environmental uncertainty and firm performance. The researcher defined environmental uncertainty as a function of a single variable (e.g. interest rates, inflation) instead of using multiple variables such as economic risk, market risk, and business risk. Although these dimensions have been defined in financial theory, the researchers have used a micro perspective of testing the effects of single variables on the dependent variables defined as part of the constructs such as capital structure or firm performance and/or other similar constructs. However, it should be pointed out that some studies have considered multiple independent variables but within a given dimension (for instance, diversification or liquidity) under the corporate strategy construct that were hypothesized to affect the dependent variable, i.e. the capital structure of the firm.

Moreover, studies in corporate finance have predominantly used the approach of testing the effects of a single independent construct on a single dependent construct; entailing for instance, the effects of corporate strategies such as diversification and liquidity on capital structure (note that these dimensions have been tested in separate studies and not within the same research design), corporate strategy on firm performance, and so forth. It should be iterated that prior research work in the area of corporate finance and/or management (using financial concepts) has not delved into testing the co-

alignment effects between these constructs within a single study. Most work done to test these effects entailed single variables taken at a time and not multiple variables taken together.

Since the co-alignment model will be tested in context of the restaurant industry, it becomes imperative that certain key aspects of the model be researched in order to prove/disprove existing norms within the industry. The strategy of firms within the restaurant industry has been one of growth, growth, and more growth. This has been accepted as a key to survival of firms by practitioners, which to say the least may be contradictory to norms of running a business efficiently. Since no work has been carried out in the area of growth strategy of restaurant firms and its viability, one of the dimensions of corporate strategy will include growth strategy. This strategy will be further broken down to include certain elements that capture the growth strategy of firms within the U.S. restaurant industry. Therefore, this study will test and analyze hypotheses relating to growth strategy of restaurant firms and its impact on the performance of these firms.

Based on the need to test and validate the co-alignment model, the specific objectives of the present study are:

1. To test if the co-alignment model is empirically viable in the hospitality industry setting.
2. To test the co-alignment model as an overarching model that applies to not only the strategic management domain, but also to the corporate finance domain. Furthermore, concepts in corporate finance should be used in strategic management to explicate the relationship between constructs and variables.
3. To test the alignment (relationship) between constructs in strategic management and corporate finance, i.e. environment risk, corporate strategy, capital structure, and firm performance.
4. To test if the above constructs are best explained when multidimensional models are used to represent them rather than through unidimensional models, an approach predominantly used in corporate finance research.
5. To test the viability of growth strategies of restaurant firms that may not be value-adding strategies, considered as essential by practitioners.

Research Questions

In order to attain the objectives, it is imperative that the research effort be clearly defined by identifying the questions that the author will attempt to answer at the end of the study. The research questions for the study include:

1. Does environment risk defined by the variables and dimensions used in prior finance and strategy research, i.e. economic risk, business risk, and market risk explain the corporate strategies of firms, *vis-a-vis* growth and liquidity strategies?
2. Do these corporate strategies significantly impact the capital structure of the firm, in that, is the choice of capital structure of the firm dependent on corporate strategies?

More specifically, do the dimensions of corporate strategy, i.e. growth and liquidity explain a significant amount of variance in the choice of capital structure? If so, what are these impacts in terms of the source of funds and their representation in the capital structure of the firm?

3. Is firm performance better explained by the alignment between the environment risk, strategy and capital structure constructs?
4. Are growth strategies value adding strategies which result in improved firm performance?

The primary objective of empirical research in any field is to test new theory that contributes to existing theory. In order to achieve this, researchers need to base their approach on certain distinct philosophies that either permeate through a given research domain or are a result of the researcher's own philosophical orientation towards research. This research effort will be based on the recommendations of Montgomery, Wernerfelt, and Balakrishnan (1989) that will serve as guidelines to the orientation towards research, i.e. (a) all theory generation should be based on past observations (p. 190); (b) strategy content research progresses when data analysis is well crafted and backed by theory (p. 193); (c) all observations should be guided by and interpreted through some theory (p. 190); and (d) the sciences should be undertaken for the sake of ultimate application (p. 191).

The following section provides an overview of the concepts covered in strategic management and corporate finance that will be used in this study to test the model. This is followed by an introduction to the contextual framework that provides a basic understanding of the domain in which the model will be validated. Subsequently, the research design is discussed briefly to provide the reader with a synopsis of what will be covered in Chapter 3.

Strategic Management and Corporate Finance Theory

Conceptual Overview of Constructs

Concepts in strategic management and corporate finance emphasize the role of the environment in terms of its effects on the firm. These concepts stress on the firm's need to analyze the external environment to identify strategic opportunities and threats (Hamel & Prahalad, 1991; Bourgeois, 1981; Olsen, 1981; Ried & Olsen, 1981). The process of analyzing the external environment revolves around identifying the forces in the macro-external environment to study their effects on the task environment and industry environment, which in turn affects the firm's environment (Olsen et al., 1998). The key to this process lies in identifying the opportunities and threats that emerge through the changes taking place in the firm's external environment (Hill & Jones, 1995; Olsen & DeNoble, 1981). This process of scanning the environment and identifying the opportunities and threats keeps the firm abreast of changes in the external environment, which further helps the firm formulate strategies that address those changes. Olsen et al. (1998) refer to this process as the alignment between the firm's external environment and the strategy choice.

In strategic management literature, the risk impact of the environment is studied under the concepts of environment such as uncertainty, complexity, dynamism, and illiberality (e.g. Emery and Trist, 1965; Jurokovich, 1972; Child, 1972; Lawrence and Lorsch, 1967; Olsen, 1980; Dess and Davis, 1984; Dess and Beard, 1984, Olsen et al., 1998). In corporate finance, these concepts fall into the umbrella of risk, which can be classified into three types, i.e. economic risk, business risk, and market risk. Note that the risk definition in corporate finance is similar to the one in strategic management, in that the strategy of firms to tap opportunities and reduce threats is inherent in the types of risks that corporate finance theorists emphasize upon. These risks by themselves capture the effects of opportunities and threats that are conceptually explained by management theorists.

Researchers in both strategic management and corporate finance domains have studied the impact of the environment risk on the firm. Strategy researchers have studied the impact of the environment on the firm and how the strategy formulation process is impacted by the concepts of the environment. These theorists define strategy formulation as a function of choosing the strategies that address the changes that take place in the firm's external environment. Hill & Jones (1995) suggest that firms need to compare strengths, weaknesses, opportunities, and threats with the objective of exploiting opportunities through existing or potential strengths and counter threats by correcting the firm's weaknesses. They further emphasize that the process of strategic choice involves identification of the corporate level, business level, and functional level strategies, with the overall objective of being able to adapt to the fast-changing competitive environment.

These concepts apply to how corporate finance theorists have defined the approach of firms to manage risk to increase the real and perceived value of the firm. In corporate finance, this is defined under the concepts of risk and how it impacts the way

resources are allocated. The difference between strategic management and finance lies in how the levels of management are defined. Whereas in corporate finance the strategy of firms and resource allocation is studied under corporate strategies and capital structure of the firm, in strategic management they are defined as corporate, business, and functional level strategies.

The levels of strategy, i.e. corporate level, business level, and functional level have been defined by management theorists in order to identify and conceptualize the differences in approach in managing firms across these levels of company hierarchy. Corporate level strategies focus on what businesses should the company invest in, in order to satisfy the interests of the stakeholders and to maximize the value of stockholders' investments. The focus here is on issues pertaining to firm growth and liquidity (e.g. Kim, Mauer, & Sherman, 1998), which influence stockholders' satisfaction. On the other hand, business level strategies entail ways in which a company would seek to attain competitive advantage through effective positioning. It should be noted that these positioning strategies of companies would vary depending on the industry setting (Hill & Jones, 1995). In corporate finance, although business level strategies are not defined as positioning strategies, the objectives of these strategies and their effects are considered within the diversification and liquidity concepts of corporate strategies.

The objective of functional level strategies is to achieve competitive advantage through "strategies directed at improving the effectiveness of functional operations within a company" (Hill & Jones, 1995; p. 12). Note that in corporate finance the functional level strategies are considered as aggregates reported as part of the financial statements of individual business units, which are then analyzed in connection to the corporate strategies. It should also be noted that the business and functional strategies are impacted by the way in which corporate strategies are formulated. Although it may be argued that a bottom-up approach of defining functional level and business level strategies will not entail the effects of corporate strategies on functional and business level strategies, in reality firms define their resource allocation strategies first by taking into consideration the effects of these strategies on overall corporate performance. Once the resource allocation decisions are formulated at the corporate level, managers at the business level can then identify the appropriate strategies to meet the objectives laid out by managers at the corporate level.

Management theorists have suggested that in order to achieve competitive advantage, the firm should achieve a fit between the environment, strategy, structure and controls (Jennings & Lumpkin, 1992). Effective strategy formulation and implementation lead to the attainment of performance objectives identified by the stakeholders of the firm. Whereas the concept of fit between the environment and strategy is important in order to achieve competitive success, Hamel & Prahalad (1991) suggested that strategic intent is the key to achieving success as compared to strategic fit, the paradigm that most management theorists followed until the late eighties. The authors suggest that strategic intent is about building new resources and competencies to tap future opportunities as opposed to the strategic fit perspective of achieving a fit between existing company resources and current environment opportunities.

In corporate finance, the strategic intent perspective is studied under the concepts of how future risk impacts the firm and how firms should allocate resources to manage risk on the long-term. The alignment between environment risk, strategies, structure, and performance can therefore be validated by considering the lag effects of risk on resource allocation decisions. The allocation of resources studied under corporate strategies affect the capital structure of firms (Barton and Gordon, 1987, 1988; Lowe, Naughton, and Taylor, 1994). And firms that perform better are able to manage the above process, *vis-a-vis* resource allocation and decisions related to the firm's capital structure, in a better way that lead to value addition (Barton and Gordon; 1987, 1988).

The performance of firms becomes the single most important construct that has been studied by management researchers, hospitality strategy researchers, as well as corporate finance researchers. Since performance objectives are what firms wish to accomplish, this construct will be scrutinized to reveal the key variables that represent it. The overall objective of a firm's existence is to continue to survive through the crests and troughs of the industry life cycle. And in order to do so, firms need to insure that the performance objectives are met consistently. Researchers have emphasized on various performance measures that range from stockholder satisfaction measures, *vis-a-vis* return on equity and earnings per share to operational performance measures, i.e. return on sales and gross operating profit. These measures also vary from accounting measures to market-based measures. This study will identify various performance measures by examining the work of researchers who have advocated the use of key performance variables, both accounting and market measures, which represent the outcome variables of a firm.

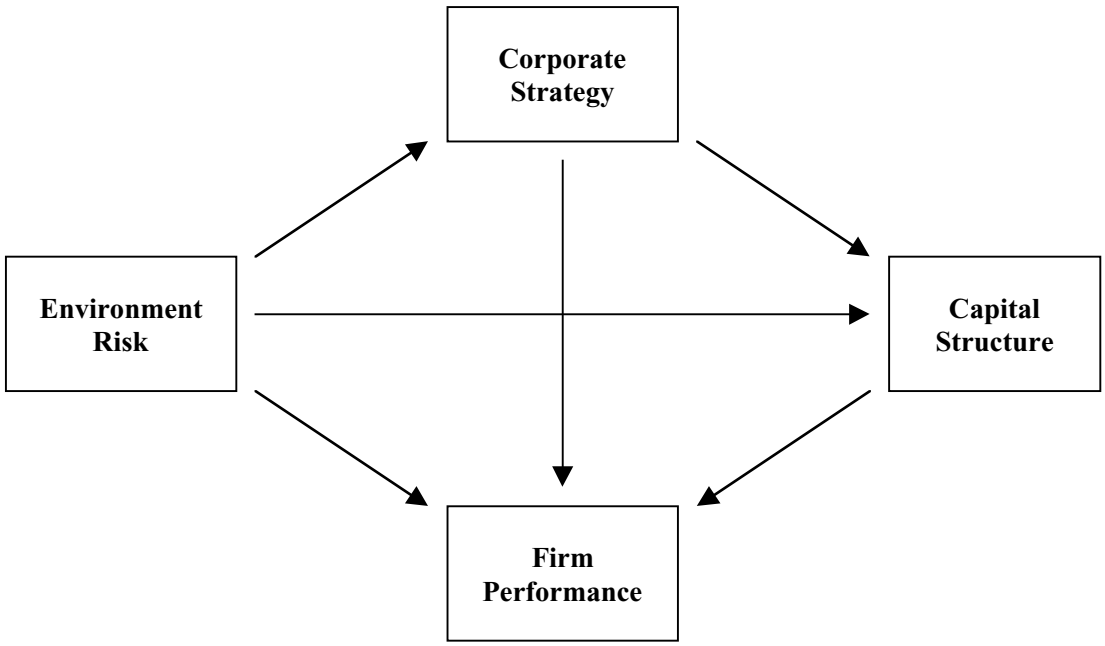

Figure 1.1 The Proposed Conceptual Model

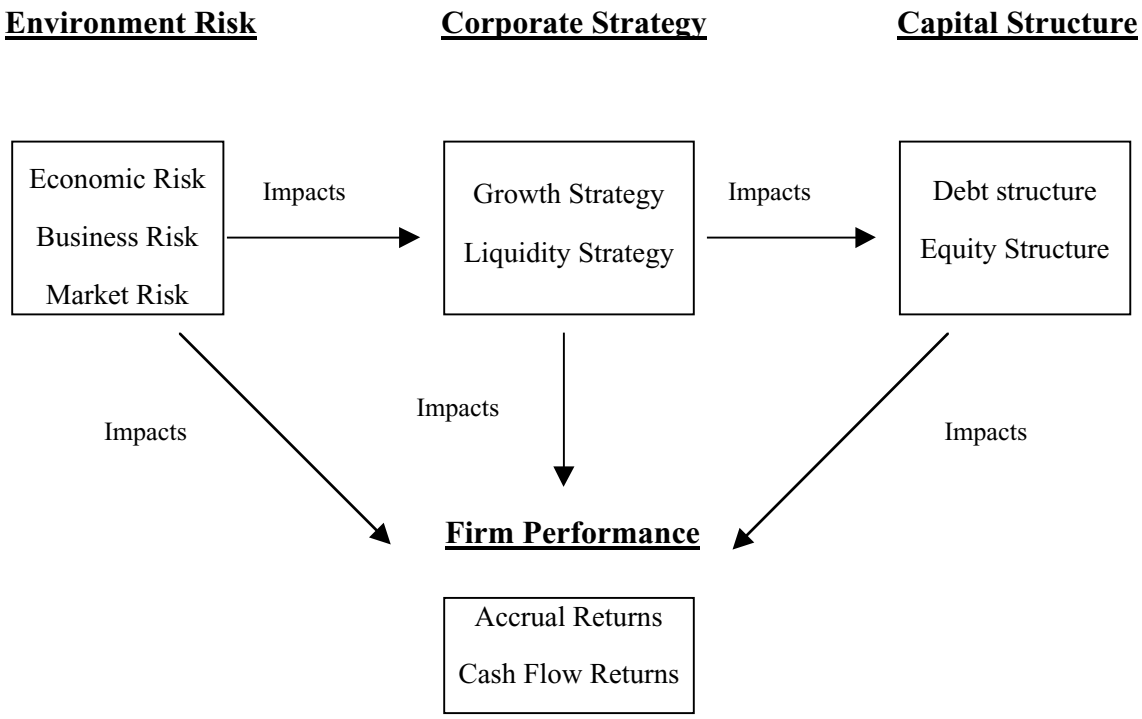

Figure 1.2 The Proposed Theoretical Model[2]

[2] See chapter 3 for the hypothesized empirical model.

Contextual Framework

The Hospitality Industry

The research setting is an important component of the research process. For the purpose of this study, the U.S. hospitality industry will be the used to test the model. The industry has various sectors that are classified as the lodging industry sector, the food service industry sector, cruise industry sector, airline industry sector, and the gaming industry sector. The sample will be obtained from the population of restaurant firms within the US. This will help control for country and industry effects. Public firms within the restaurant industry will be identified based on the information they provide on their annual reports. These data will be obtained from databases that include COMPUSTAT and Securities and Exchange Commissions (SEC) filings.

It should be pinpointed that hospitality research efforts have not tested the relationship between the constructs identified in this study, especially using the conceptual framework provided in corporate finance. The reason to test the model in the context of the hospitality industry is further warranted in order to prove the industry effects, which was found to be significant in studies that considered the effects of corporate strategies and resource allocation decisions using industry groupings (e.g. Scott, 1972; Scott and Martin, 1975; Oviatt and Bauerschmidt, 1991). Moreover, prior strategic management and corporate finance research efforts in the mainstream management and finance domains respectively, as well as the research efforts in the hospitality research domain have not tested the co-alignment model, which coupled with the industry effects stated above are important reasons as to why the present study should be conducted using the hospitality industry setting.

Research Design

Unit of Analysis

As stated above, data will be collected from secondary sources that will enable effective testing of hypotheses. Since the model pertains to testing the effects of single and multiple dependent constructs/variables, i.e. environment risk on corporate strategy, and their effect on firm performance; corporate strategy on capital structure and their impact on firm performance; and environment risk, corporate strategy and capital structure on firm performance, the unit of analysis will be the firm's corporate level for variables that pertain to corporate strategy, capital structure, and firm performance.

Environment risk will be operationalized using the dimensions of risks, i.e. economic risk, defined as the covariance between the GDP growth rate and the firm's sales growth rate; business risk, defined as the covariance between the average cash flow of the S&P 500 firms and the restaurant firm's cash flow; and market risk, defined as the covariance between the average market price of the S&P 500 stock and the market price for each firm for given years. On the other hand, the dimensions of corporate strategy, i.e. growth will be operationalized using sales growth, asset growth and growth potential;

and liquidity will be operationalized using the firm's investment in cash and marketable securities as a percentage of total assets. The capital structure of the firm will be operationalized using the debt ratio while firm performance will be operationalized using the two dimensions, cash flow (Free Cash Flow per share) and accrual returns (return on equity).

Hypotheses Development and Measurement Issues

The variables used for this study will be derived from prior studies. The relationships between variables will be specified *a priori* through existing theory and prior research work. The hypotheses will be developed such that each variable representing the constructs are identified and then tested sequentially. The sequencing of tests will be based on the order in which variables are theorized to impact each other. Note that since these variables will be operationalized using secondary sources of information, the level of measure used for this study will be interval/ratio type data. It must be underlined that limitations do exist for data sets of the type that will be used in this study. Although these limitations pertain to whether the variables operationalized using the data have measurement error or not, the fact is that the data categories that are part of the published information of firms are standardized across firms and are universally accepted by the corporate world. Therefore, the data will have negligible within sample differences in measurement across the population of firms with reference to databases such as COMPUSTAT and SEC fillings. Moreover, since these data sets are used by industry managers and analysts for decision-making purposes, they represent the real life setting even more.

Data and Analyses

The data will be collected from secondary sources as identified before, i.e. COMPUSTAT database obtained through Wharton Research Data Services (WRDS), which will include time series data that will be averaged over the time period. This would enable the use of cross-sectional regression analysis to test the relationships between variables. The lead and lag effects of the variables will be taken into consideration, which will insure the robustness of the overall analysis and findings.

Summary

The importance of testing the co-alignment model has been emphasized by several researchers in the past. The present study is an attempt to test the model using theories in corporate finance and strategic management, which will also elucidate the commonalties that exist between these domains of business research. This will help support the arguments of some researchers in the hospitality industry who have stressed the importance of assessing the firm's strategies using concepts in finance. Although the co-alignment model is an overarching concept that has been used in strategic management as well as corporate finance research, there exists a lacuna, in that the constructs have not been tested in its entirety in both domains.

The present study will identify the dimensions and variables using prior research within each of the constructs studied under the management and corporate finance domains, *vis-a-vis* environment risk, corporate strategy, capital structure, and firm performance, which is in line with the co-alignment model. Subsequently, the relationship between these constructs and dimensions will be tested for the dependencies between them through *a priori* hypothesized relationships. The unit of analysis will be the corporate level, and hence, the study will include corporate level data of hospitality (restaurant) firms. The research design will include cross-sectional data of restaurant firms averaged across an *a priori* defined time period. This will help address the lead and lag effects of variables across the time period. The overall objective of this study is to test the viability of the co-alignment model using strategic management and corporate finance theory.

Chapter 2

Literature Review

Introduction

The objective of this study is to test the co-alignment between environment risk, corporate strategy, and capital structure, and their effect on performance of firms within the hospitality industry. In doing so, it is aimed that the key relationships between the constructs and the variables that represent them are identified. This chapter will delve into the literature in the area of strategic management and corporate finance to elucidate the underpinnings of theory on the constructs and variables identified within the co-alignment model in these two distinct domains of business research. Furthermore, the literature review will also address how and why the co-alignment model will be applied to the present study in testing the relationships between environment risk, corporate strategy, capital structure, and firm performance.

The chapter will start with a brief account on the co-alignment model, and then delve into the literature on each of the constructs identified within the co-alignment model. Work done in business research that entails concepts and theories in corporate finance and strategic management encompassing the co-alignment model in relation to the constructs, *vis-a-vis* environment risk, corporate strategy, capital structure, and firm performance will be explored in detail. Dimensions and variables used by researchers in the past to explicate and operationalize each of the constructs will be discussed, which will help link the present study to past research.

The Co-alignment Model: A Conceptual Overview

The co-alignment model, coined by Olsen, West, and Tse (1998), conceptualizes the relationship between four key constructs, i.e. the environment, strategy choice, firm structure, and firm performance. The co-alignment principle states that, "if the firm is able to identify the opportunities that exist in the forces driving change, invest in competitive methods that take advantage of these opportunities, and allocate resources to those that create the greatest value, the financial results desired by owners and investors have a much better chance of being achieved" (Olsen et al. 1998, p.2). The present study will use the principle in connection to concepts in corporate finance while identifying and testing the relationship among the constructs and variables.

Corporate finance theory suggests that a corporation should be concerned about the type of investments it will make in the future, the sources of funds it will consider to fund those investments, and the level of cash flows required to operate the company in the short run, which if managed efficiently with minimal risk exposure of the firm will lead to long-term success (Ross, Westerfield, & Jaffe, 1999). The underlying premise of the above statement is based on four key constructs, i.e. environment risk, corporate strategy, capital structure and firm performance. As indicated in the definition of the co-

alignment model, these four constructs need to be in alignment, in that there should be a significant relationship between the individual constructs if the firm's overall performance is determined to be above the average firm within a given industry. It is the intent of the author to test the relationship between these constructs in order to validate the conceptual underpinnings of the co-alignment model.

Note that the constructs within the co-alignment model as defined by Olsen et al. (1998) is slightly different from the one defined in this study. This is because of the extension of the model from the management research domain to a closely related field, *vis-a-vis* corporate finance. The constructs are one and the same but the model will be researched and analyzed at the firm's corporate level in order to apply the concepts of corporate finance to the present study. On the other hand, management studies apply the model to the corporate level, business level and the functional level of the corporation's hierarchical levels. Before each construct is explored, it is essential to define the levels and the concepts of strategy formation that take place within a corporation. The following section will define strategy and explain the hierarchical levels of strategy formation.

Strategy - Definitional Issues

Strategy has been defined very distinctly in strategic management theory. For instance, according to Chandler (1962), strategy is the determination of basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. Hofer & Shendel (1978) defined strategy as the match among organizational purposes, resources, skills, environment opportunities and risks. Similarly, Thompson & Strickland (1981) defined strategy as the manner in which an organization accomplishes its objectives through the formulation of means, matching and allocating resources, and directing its effort to produce results. On the other hand, Bourgeois (1978) defined strategy in terms of a firm's relationship with the environment to achieve its objectives, while Mintzberg (1981) defined the term as a pattern in a stream of decisions or actions.

These definitions are important for the literature as it defines the domain of strategy in terms of its literal meaning as well as the direction of research efforts that it influences. Although the above definitions of strategy may differ in literal meaning, the underlying theme common to all is the ability of the organization to meet its objectives by directing its efforts in a resourceful manner, aligning them to the developments in the external environment. Having identified this theme in the definition of strategy, it becomes essential to identify whether each individual research domain within the field is a proponent of this ideology professed by eminent researchers. To do so, it is essential to pinpoint the orientations of the sub-domains in the field of strategy.

Sub-domains of Strategy

The strategic management model suggests that intended strategy is an outcome of certain distinct actions taken by firms. These actions can be categorized as the product of

a firm's external analysis and internal analysis (Hill & Jones, 1995). The external analysis is about understanding the firm's external environment to identify opportunities and threats. This analysis includes analyzing the firm's remote environment domain, task environment domain, and industry environment domain in order to identify the forces driving change and their impact on the organization during a given time period (Olsen et al., 1998). On the other hand, the internal analysis entails pinpointing what the strengths and weaknesses of the firm are in order to identify the quantity and quality of resources available to the organization (Hill & Jones, 1995). The concept that entails analyzing the firm's external and internal environment and subsequently identifying the appropriate strategy comes under the *strategy formulation* sub-domain of strategy research. On the other hand, the sub-domain that deals with designing organizational systems and structures in order to put the strategy into action is termed as strategy implementation.

Strategy choice is a component of strategy formulation that entails identifying the strategic alternatives in tandem with the firm's strengths and weaknesses. Since strategy is about identifying the appropriate courses of action, these alternatives vary depending on the hierarchical levels of the organization confirmed by, for instance, Hofer & Shendel (1979), who point out that strategy content varies with the level of organizational hierarchy. The hierarchical levels identified by various management theorists in the strategy domain are functional level, business level, and corporate level strategies (Hill & Jones, 1995) and are discussed in the following section.

Hierarchical Levels of Strategy

Corporate Level Strategy

The corporate level strategy entails decisions made by corporate managers to insure that company stakeholders are satisfied at all times. With this as the goal, the managers at the corporate level of company hierarchy decide to invest in business(es) that result in long-term profit maximization and increased returns to the firm's stockholders. Corporate strategies entail two distinct dimensions that include measures pertaining to growth (Zook & Rogers, 2001) and liquidity (Kim et al., 1998). Corporate managers decide what businesses to invest in and how liquid the assets of the firm should be to maximize the value of the firm, both in the short and long term scenario. This study will explore these two dimensions in detail in the following pages of this chapter.

Business Level Strategy

Business level strategy applies to the unit level of the organization and is referred to as those strategies that are applied at the strategic business unit (SBU) level. SBU level strategy is formulated and implemented by business level managers, who are also referred to as unit level managers or general managers. While this may be the case in the manufacturing industries, the hospitality industry general manager does not necessarily formulate these strategies, rather they are instrumental in the implementation of the strategy. The formulation of business level strategies is entailed in the corporate strategy when the corporate managers define the positioning of the firm. Since business level

strategy is a result of market segmentation and positioning strategies, the generic strategies of cost leadership, differentiation, and focus (Porter, 1980) result from the way corporate managers conceive the orientation and positioning of the product during the time of its inception.

This logic also applies to the Miles & Snow's typology of prospector, defender, analyzer, and reactor. These generic typologies are a result of the corporate level manager's positioning strategies, and the budget allocated to the units to pursue that strategy. In this regard, the hospitality industry is different from the manufacturing industry in terms of the distinction between the three levels of strategy. There is an overlap in the decisions made at the three levels, with the corporate level influencing the decisions of the unit level and the functional level. This may not be apparent by scrutinizing the organizational structure; rather, this results from the job responsibilities that are entrusted to the different levels of management hierarchy, especially the business and functional level.

Functional Level Strategy

Functional level strategies are those strategies that are initiated by the profit /support centers of an organization. These centers are individual functions that result when activities that are similar in their characteristics and objectives are grouped under a given function. Each separate function should have its own goal and objective, and functional managers formulate strategies to attain those goals and objectives. To be competitively superior to other firms, functional level managers strategize to attain superior efficiency, superior quality, superior customer responsiveness, and superior innovation (Hill & Jones, 1995). Although hospitality researchers have posited that manufacturing based strategy theory may not be applicable to the hospitality industry (Murthy, 1994), it can be argued that strategies professed by management theorists have been generalized to apply to any given industry.

Definition of Constructs

The constructs identified in this study as part of the co-alignment model are the environment risk, corporate strategy, capital structure, and firm performance. This section will explore these constructs in more detail while highlighting the various contributions of researchers in the field of business research (includes both corporate finance and strategic management) that have led to the development of the theory. It should be pointed out at the outset that the these constructs will be explored from the strategic management and corporate finance point of view in order to underscore the similarities and differences that might exist across these domains in how these constructs are defined.

The Environment Risk Construct

The environment construct in the strategic management literature emanated from the contingency school of management, which emphasized on the role of the environment

in the definition of strategies, and subsequently its influence on firm performance. Several management researchers of the likes of Dill (1958), Emiry and Trist (1965), Lawrence & Lorsch (1967), Child (1972), Jurkovich (1974), Bourgeois (1980); Dess & Beard (1984), and others have all attempted to explain the role of the environment in the definition of firms' strategies, and its impact on firm performance. These studies spanned two to three decades of research from the late fifties to the mid-eighties, which focused on the concept of the environment and contributed to the incremental growth of the literature through empirical and conceptual research. Hospitality researchers focused on the environment construct starting in the early eighties through notable contributions from Olsen (1980), DeNoble & Olsen (1981), Reid & Olsen (1984).

In the context of this study, the role of the environment is one of being a contingent factor on the firm in terms of the opportunities it creates and the threats it poses. This is captured in the various types of risks that the firm faces because of the impending threats and opportunities that arise from the firm's external environment. These risks are a function of the complexity and uncertainty associated with the environment (Olsen et al., 1998), which can have a significant impact on a firm's success.

Managing risk at the organizational level is considered to be the key to the long-term survival of firms. According to Busman & Van Zuiden (1998) "there is a growing recognition that coordinating and financing all facets of organizational risk effectively is critical to maximizing success, whether that success is measured by shareholder value or, in the case of not-for-profit, educational or governmental institutions, by the range and quality of provided services" (p. 14). Furthermore, the authors point out that because of the speed at which the organization's external business environment is constantly changing, managers are required to keep pace with this change through effective monitoring of the developments that increase the risk exposure of firms.

According to Oxelheim and Wihlborg (1997), "the concept of risk refers in general to the magnitude and likelihood of unanticipated changes that have an impact on a firm's cash flows, value or profitability" (p. 1). Furthermore, these risk factors can be broadly classified into the following categories, *vis-a-vis* economic risk, business risk, and market risk[3], which is the method used by the Bank for International Settlements (BIS). The authors point out that "this classification is primarily oriented towards banks but it often applies as well to non-financial firms" (p. 20). This study will use the BIS classification as explained by Oxelheim and Wihlborg (1997). Note that these risk factors capture the volatility and uncertainty of variables in the macroeconomic and microeconomic environments, which management researchers who developed the concepts of the environment classified as remote environment and task environment effects on the firm (e.g. Dill, 1958; Dess and Beard, 1984; Olsen et al., 1998). The dimensions of risk are explained in detail in the following section.

[3] Note that Oxelheim and Wihlborg (1997) included interest rate risk, credit risk, legal risk, counterparty risk, and liquidity risk, which are not considered as part of this study.

The Environment Risk Dimensions

As indicated above, the environment risk factors can be classified into various risk categories. For this study, the three major categories of risk, i.e. economic risk, business risk, and market risk that hospitality firms are exposed to will be included as part of the analysis. These risk dimensions capture the environmental uncertainty and volatility that affect the firm's performance. The first dimension, i.e. economic risk is defined as the covariance of the firm's sales growth with that of the overall growth of the Gross Domestic Product of the country (U.S.). This risk definition will help capture the uncertainties in the macroeconomic environment that affect industry and firm sales. Note that in the definition, covariance captures the essence of risk that the firm is exposed to because of a change in the macroeconomic situation of a country or region.

Business risk, according to Oxelheim and Wihlborg (1997), "is caused by possible deficiencies in the operational procedures for control" (p. 20). Fabozzi (1999) defines business risk as the risk that creates deficiencies in one or more of the firm's operational factors or an internal control failure that might result in unexpected losses. This typically results in a variance of cash flows of the firm as compared to the market, as a result of the ineffectiveness of the management to ensure adequate returns to the firm. It will be measured as the covariance of the firm's cash flow with that of the S&P 500 average. This risk indicates the degree to which the firm is exposed to in terms of cash flows compared to the average firm. Finally, "market risk is caused by the uncertainty about the market value of tradable securities" (Oxelheim and Wihlborg, 1997; p. 20). This risk is defined by the covariance of the firm's market price of share with that of the S&P 500 average.

As pointed out by Walt & Dyer (1996), it should be noted that the concept of risk that will be captured in this study would be the *ex ante* impact and not the *ex post* impact that most strategy and finance scholars have operationalized in their studies. This is explained by the authors, according to whom, "in the decision making context, risk is an *ex ante* concept; however it generally is measured in empirical work on organizational performance after the event (*ex post*) through such measures as variance of returns. This is true in the case of financial economics as well as strategic management" (p. 1004). Based on the concept of risk as defined in finance and strategy, the measures of risk operationalized in this study will be done keeping in mind the *ex ante* effect of risk on the firm. This study will operationalize the three dimensions of risk and test the effects of these risks on the firm's corporate strategies, capital structure and firm performance. Chapter 3 details the operationalization of the dimensions of risk.

The Corporate Strategy Construct

The strategy construct entails three distinct levels of strategy, i.e. corporate level, business level, and functional level strategies. As indicated in Chapter 1, this paper will focus on corporate level strategies while exploring the work done by several researchers in the strategic management and the corporate finance domains. At the end of this section, the reader will be provided with a review of research work that entails advances

in corporate finance and strategic management. This section will also explore the dimensions of corporate strategy while highlighting the contributions of researchers in defining these dimensions.

Before the concept of corporate strategy is explored at length, it is essential to define corporate strategy. Simply stated, corporate strategy entails top management's decision to invest in businesses, which they consider as the most value adding investments. It revolves around the basic premise of defining the firm's objective of which business(es) to be in (Olsen et al., 1998). Corporate strategy influences all levels of strategy formulation including business and functional level, in that the decisions made at this level becomes the blue print of strategy formulation at the business level, which in turn influences the functional level. This does not mean that functional level and business level strategies do not influence corporate strategies. Even though there may be influence from both these levels of strategy formation on corporate strategy, it is how the corporation's top management defines the strategy of the company as a whole that will influence the company's strategy at various levels of its hierarchy.

Dimensions of Corporate Strategy

Growth

Growth is considered to be one of the key benchmarks of success by practitioners in most industry settings. The restaurant industry setting is no different, in that firms within the industry have used this strategy as one of the key elements of success. Although firms that are successful might use growth strategies as part of the portfolio of strategies, general facts on growth strategies applicable to all industries prove a point on the contrary. According to Zook & Rogers (2001), "the 240 companies in the top seven industrialized nations that achieved profitable growth tended to: (1) reduce rather than extend the scope of their business, (2) find profitable opportunities within the scope of their current operations, (3) search ceaselessly for ways to improve the performance of their core business" (p. 83).

Ireland, Hitt, Camp, & Sexton (2001) define growth as "an outcome sought in large, established corporations, as well as in entrepreneurial ventures. Two major types of growth opportunities are significant changes in social, political, demographic and/or economic forces; and inefficiencies in existing markets, such as information asymmetries or limits to technology" (p. 1). The authors further point out that both cases mentioned above call for firms to use innovation to deal with emerging opportunities. Furthermore, "since the most successful innovations are products of properly designed and implemented strategies, entrepreneurial actions and strategic actions are linked to the type of growth through which firms are able to create more wealth" (Ireland et al., 2001; p 1)

To be able to strategically plan and implement growth strategies, firms would need to plan what types of growth strategies suit their market orientation. In other words, firms will need to effectively choose the optimal growth strategy from the various alternatives that they have. These alternatives include *expansion into existing businesses,*

diversification into new businesses, modes of growth, internal development, acquiring firms, and collaborative ventures. This section will not delve into the nitty-gritty of these alternatives; instead, the focus will be to explore the objectives of growth of firms in the restaurant industry.

There has been little empirical research done in the area of growth strategies of restaurant firms. The growth strategy of firms in the restaurant industry can be best summarized by the excerpt extracted from Jekanowski (1999) that highlights the growth strategy of one of the most successful firms in the industry over the past four decades. "McDonald's wants to have a site wherever people live, work, shop, play, or gather" (p. 13). This strategy is not only applicable to McDonalds, but also to firms such as Boston Market[4] and Shoney's Inc. These firms may not be as big in size as McDonalds but had growth objectives comparable to that of McDonalds. And the list of firms that have similar objectives may be greater than a handful. In fact, firms such as KFC and McDonalds have been the role models for firms in the restaurant industry, *vis-a-vis* growth in number of units domestically as well as internationally.

But the question that corporate managers of the restaurant industry need to ask themselves is that do growth strategies really help a firm add value, and thereby benefit its stockholders? The answer to this question is not known to both researchers and practitioners in the industry, although one might be able to guess the outcome of growth strategies in the restaurant industry. Keeping this as the precursor, this strategy will be tested as part of the dimensions of the corporate strategy construct within the co-alignment model.

Several researchers have suggested that growth strategies need to be managed well so that the firm can maneuver its orientation towards its market as well as its stakeholders appropriately. For instance, "aggressive and rapid growth could increase risk by straining a firm's human resources and its ability to develop efficient controls and an effective internal structure. Growth ought to be carefully managed while developing an internal structure that is capable of coping with that growth while maintaining control of the firm's operations" (Borde, 1998; p 68).

This study will use three measures of growth in order to test the effectiveness of the strategy. These measures include sales growth, asset growth, and growth potential of the firm. Although researchers have used growth in earnings before interest and taxes as a proxy for growth (e.g. Borde, 1998), the assumption of these researchers while using this measure is that sales growth, asset growth and growth potential of the firm translate into earnings growth, which may not be the case. A firm that may not pursue aggressive sales or asset growth may in fact grow in earnings, based on how its managers are able to manage the firm's profitability.

To this extent Hill & Jones (1995) suggested that firms might grow at the expense of their stockholders' wealth. In other words, the excessive growth that a firm pursues may be at the expense of overall firm profitability. The authors further suggest that "the

[4] Boston Market is currently owned by McDonalds.

CEO might grow the company through diversification. Although such growth may do little to enhance the company's profitability, and thus stockholder wealth, it increases the size of the empire under the CEO's control, and by extension, the CEO's status, power, security, and income (there is a strong relationship between company size and CEO pay)" (p. 47-48).

The above is supported through an example of a firm within the restaurant industry that became infamous because of its growth strategy. Boston Market used growth of stores to increase its sales, while at the same time increasing its debt position and hence overall firm risk of becoming bankrupt. Hill and Jones (1995) suggest that firms that grow through diversification into more unrelated business, will do so by sacrificing profitability, as the competencies of the company to produce adequate returns on investments in business ventures that they have little expertise in can lead to a decline in profitability. Furthermore, growth brings in positive return only to a certain extent, beyond which the firm's managers will sacrifice the wealth of its stockholders to achieve higher growth. By testing the relationship between firm growth strategies and performance, it would be clear if there exists a significant relationship between the two constructs.

Three measures of firm growth will be used in this study. The first measure, i.e. sales growth will capture increased sales through same store sales as well as increased store sales. It is essential for both researchers and practitioners to find out if sales growth adds value to the firm, which will be tested in this study. The second measure, i.e. asset growth will capture the growth in market value of assets, which will indicate if a firm that adds to its asset base will at the same time add more value to the firm. The third measure, i.e. growth potential will capture the future growth of the firm, which will be captured by using the ratio of market value of assets to book-value of assets. Note that this measure will tell us about the growth opportunity set of the firm as a result of its investment strategy. The relationship between these measures and measures of the capital structure and firm performance constructs will help conceptualize the dynamics of growth strategy more comprehensively. Also, the impact of environment risk on these growth strategies will be tested to comprehend the relationship between environment risk and the choice of growth strategies.

Liquidity

The second dimension of corporate strategy that will be explored in this study is the corporate liquidity strategy of firms. According to Kallberg & Parkinson (1992), corporate liquidity is a strategy that top management pays attention to in connection to the management of the firm's assets. Firms typically manage their liquidity through resource allocation decisions that are directed towards more liquid assets (Kim, Mauer, and Sherman; 1998). The objective is to increase the liquidity of the firm but while doing so, managers may have to consider the pros and cons associated with the trade-off between investment in liquid or illiquid assets. Some authors, for example Huberman (1984), Ang (1991), and Myers and Rajan (1995) have provided explanation to the theory that more liquid assets may lead to agency problems as compared to less liquid assets.

The literature on the investment preference of firms in liquid assets purports that either firms should hold large amounts of liquid assets (e.g. Myers and Majluf, 1984) or no liquid assets (e.g. Jensen, 1986). According to John (1993), "liquid assets constitute a considerable portion of total assets and have important implications for the firm's risk and profitability" (p. 91)

Evidence to the proposition that firms hold a significant amount of their total assets in liquid assets is purported by Baskin (1987), who reported that among his sample of 338 major U.S. corporations, 9.6 % of invested capital was held in cash and marketable securities in 1972. Moreover, according to John (1993), "in our sample of 223 major U.S. corporations, the annual liquidity ratio was 6.3 percent in the period 1979-1981" (p. 91). According to Kallberg & Parkinson (1992), there are six stages of decreasing liquidity, which are: (i) meeting current obligations from current cash flows, cash balances and short-term investments; (ii) using short-term credit; (iii) careful management of cash flows that include credit policy management and inventory management; (iv) renegotiations of debt contracts; (v) asset sales; and (vi) bankruptcy.

John (1993) points out that "the assets of a firm also have a natural categorization based on liquidity. Cash or cash like (marketable) securities are liquid assets. Long-term investments (such as plant and machinery) which may only produce liquid assets in the future may be called illiquid assets" (p. 92). Kim et al. (1998) proposed that the relationship between the liquid asset holdings and the firm's growth opportunities may be positive. This notion is supported by Lakonishok, Shleifer and Vishny (1992), who argued that firms with large intangible assets would have higher costs of financial distress and therefore would invest more in liquid assets to minimize this cost. This is further supported by Myers (1977), who also posited that maintaining excess liquidity may help in reduction of financial distress.

Kim et al. (1998) also proposed that investment in liquid assets is positively related to the return on liquid assets, while it will be negatively related to the current rate of return on investment in production. Also, the authors state that the future economic conditions affect investment in liquid assets. The better the future is in terms of investment opportunities, the more the investment will be in liquid assets. Also, Baskin (1987) pointed out that as the firm's debt ratio increases, the cost of funding the assets to maintain a higher level of liquidity increases, thereby reducing the level of funds that will be used to maintain higher levels of liquidity.

There are industry effects associated with liquidity. Different industries have different levels of liquidity to take care of operational requirements as well as managing the rate of return of the firm. Damodaran (1997) points out that the difference in how firms maintain different levels of liquidity position with respect to cash and marketable securities is reflected across industry groupings. This is reflected in the ratio of cash and marketable securities taken as a percentage of total assets, which Damodaran suggests is the case as the demand for cash and cash equivalents is different across industries. Because of the industry effects of liquidity strategy, the need to test the liquidity strategy

of firms in the restaurant industry is warranted, as similar studies in hospitality research have not been conducted.

Lancaster, Stevens, & Jennings (1999) tested the industry effects of the "distinctive relationships between cash flow, accrual income and liquidity measures" (p. 37). The results supported the proposition that significant industry effects exist in many of the relationships. For instance, the authors found that industry differences exist in relationships between liquidity, accrual income, and cash flow. The authors point out that "these findings are consistent with other studies where industry effects are found in capital structure, risk, returns, and financial ratio patterns" (p. 43). However, they could not generalize the effects of cash flow from operations to have significant incremental explanatory power for change in static liquidity, which were found only in the case of manufacturing firms. This will be tested in the present study with respect to the sample of firms, which will be service-industry based, i.e. firms within the hospitality industry. The authors suggest that "caution should be exercised about the relative information content of accrual income and cash flow with respect to liquidity measures" (p. 43).

The recommendation of Lancaster et al. (1999), with respect to the direction of future research stresses on the importance to test the industry effects in accounting relationships, which in the context of their study was to examine the relationships between liquidity, accrual income, and cash flow. This recommendation will be used in the present study as the precursor to test the relationship between the above mentioned dimensions/variables.

The Capital Structure Construct

The capital structure of a firm involves two key components, i.e. debt and equity. Ross et al. (1999) point out that the goal of management is to maximize the market value of debt and the market value of equity. By doing so, the firm is able to maximize its total value. The optimal capital structure of the firm is one that minimizes the cost of capital. In other words, an optimal balance between the proportion of debt and the proportion of equity would result in the overall minimization of the cost associated with these components. Furthermore, it is essential that these costs are weighted across the various sources of funds to insure that the overall cost is the minimum.

The components of capital structure, i.e. debt and equity have their own characteristics. In other words, debt is a function of the firm's borrowing on the short and long term that is paid off over the term it is borrowed for. The payments made by the firm to its debt holders are done in two parts; the first component is debt service, more commonly known as interest payments, while the other part is the payment of the principle itself, which is done over the life of the loan. On the other hand, equity is raised by the firm either from its owners or from the public through the issuance of stocks. The cost associated with debt financing is the interest payments adjusted for taxes, whereas the cost associated with equity is the expected rate of return on the equity. Note that the expected rate of return on equity using the Capital Asset Pricing Model (CAPM) consists of a market premium that the firm has to provide its equity holders over and above the

risk free rate of return for the risk they take by investing in the firm. The covariance of the return on the firm's stock as compared to the market, termed as "market beta" will have an effect on the premium firms pay for the increased risk equity holders take (Ross et. al., 1998; Brearley & Myers, 1996).

Based on the basic concepts of the capital structure, firms' managers make decisions on what type of funds and at what levels in terms of magnitude, will lead to the overall minimization of the costs associated with procuring these funds. Therefore, the demand and supply of funds affect the capital structure, but at the same time, the riskiness associated with the firm's cash flows affects the capital structure. In other words, the more the volatility of the cash flows of the firm, the more will be the impact of this risk on the firm's ability to raise debt and/or equity. Titman and Wessels (1988) point out that "a firm's optimal debt level is a decreasing function of the volatility of earnings (p.6). Other authors who confirmed this relationship include Bradley, Jarrell, & Kim (1984). Moreover, the costs associated with the funds will be affected as a result of the volatility of cash flows. Therefore, it can be stated that the capital structure decisions are based on the impact of the external environment on the firm and the strategies the firms use to insure that the value of the firm is maximized. This would vary from period to period, from firm to firm, and from industry to industry.

The capital structure decisions, which are dependent on the financing decisions of the firm, can be met using the firm's own cash flow to meet the requirements of capital spending and net working capital. Ross et al. (1999) point out that "historically, U.S. firms have spent about 80 percent of cash flow on capital spending and 20 percent on net working capital" (p. 356). Based on the trends of long-term financing decisions, the authors point out that (a) internally generated cash flow has dominated as a source of financing, which forms 70-90 percent of long-term financing; (b) firms typically spend more than what is generated internally, which has averaged about 33 percent in recent years; (c) the financial deficit is covered by using borrowing and issuing new equity, the latter being significantly lower than the former, and negative in recent years.

The above is supported by Donaldson (1961) and Brealey and Myers (1984), who suggest that firms raise their capital from three sources and in that order, i.e. retained earnings, debt, and by issuing new equity. Titman and Wessels (1988) suggest that "past profitability of a firm, and hence the amount of earnings available to be retained, should be an important determinant of its current capital structure" (p. 6). Therefore, firms with more retained earnings will typically use this source of funds as compared to debt or outside equity, which might decrease the leverage of the firm during those years when profitability and thus retained earnings are high.

The fact reported above, that firms use internal sources of funds more to invest in new projects is validated by Donaldson (1961) and Myers (1984), who found that the funds that managers typically use as the first source to fund projects are internally generated, especially for positive NPV projects. The use of externally generated funds is never the first consideration, and within externally generated types of funds, debt is

preferred over common stock. This concept brought forth the notion of the *pecking order* theory in corporate finance.

Although debt financing is preferred over equity financing, it must be noted that as a result of financial distress and bankruptcy costs, firms typically do not fund the investments with debt alone. Ross et al. (1999) point out that firms that pursue high growth strategies will have lower levels of debt as compared to firms that pursue low growth strategies. Research work done in the area of capital structure of firms reveals that most corporations have low debt to asset ratio. Ross et al. (1999) show the debt ratios of U.S. industrial firms from 1980 to 1994, which indicates that this ratio was less than 50 percent.

The industry effects of capital structure are important to consider. Titman (1984) pointed out that firms of industries that find liquidation costly would relatively use less debt. Other studies reveal that the debt ratios of high growth industries indicate that they are low, whereas industries with low growth prospects use more debt financing (Ross et al. 1999). The authors further point out that there are four important factors in the final determination of a target debt-equity ratio: (a) taxes, (b) types of assets, (c) uncertainty of operating income, and (d) pecking order and financial slack. The two reasons that directly apply to this study are: (1) type of assets, and (2) uncertainty in operating income. The type of assets influences the debt-equity ratio because of the financial distress concerns that managers have. Firms with large investments in tangible assets have lower costs of financial distress than firms with intangible assets. This is so because of the resale value of the tangible assets that can be more easily assessed as compared to intangible assets. Firms with uncertainty in cash flows are more prone to financial distress, even with low levels of debt or no debt. Therefore, these firms typically rely on equity financing than debt financing to fund their investments in assets.

Titman and Wessels (1988) elucidate on the reasons why different types of assets affect the firm's capital structure. One of the points that the authors raise is that firms with property of known values will issue more debt as they will avoid costs associated with other forms of funds, and use the existing assets and collateral to minimize the cost of capital. Yet another reason provided for the capital structure decisions is attributed to the size of the firm. The reason as to why large firms are more highly leveraged is explained by Titman and Wessels (1988), who suggest that "a firm's direct bankruptcy costs appear to constitute a larger portion of a firm's value as that value decreases" (p. 6). This is confirmed by Ang, Chua, and McConnell (1982) and Warner (1977). Furthermore, "relatively large firms tend to be more diversified firms and less prone to bankruptcy" (Titman and Wessels, 1988; p. 6)

Lowe, Naughton and Taylor (1994) point out that the significance of the debt to equity ratio is influenced by several criteria that include: (a) the apparent norm of the particular industry; (b) the tradition within the firm; (c) the limits which lenders place on firms; (d) management's judgement of the capacity of the firm to service debt. The authors further point out that capital structure decisions are behavioral in nature more than financial. Ross et al. (1999) also support this reasoning while stating that there are

no straightforward formulae that help figure out the optimal capital structure of a firm in the real world. Several researchers have tried to pinpoint the determinants of capital structure. Some of them emphasized on factors such as size, industry type, income variability and operating leverage as the primary reasons (Ferris and Jones; 1979), while others emphasized on the collateral asset value, non debt tax shields, growth, uniqueness, volatility, profitability, asset ratios, earnings risk, and market value as reasons that influence capital structure decisions (Titman and Wessels, 1988; Friend and Lang 1988). Titman and Wessels (1988) point out that "theories suggest that firms select capital structures depending on attributes that determine the various costs and benefits associated with debt and equity financing" (p.1).

This study will test the effects of some of these determinants in context of the restaurant industry while considering the propositions of some of these authors that take into consideration the industry effects and external environmental effects as well as strategy choice effects. These effects will be discussed in more detail in the section on "Relationship between the Constructs[5]."

The Firm Performance Construct

Various research efforts in the economic and management fields have tried to capture the performance construct that defines the outcome of the actions taken by firms in comparison to competing firms or the industry. Since the primary objective of a business entity is to make profits, performance has been the most important construct studied over the past thirty-five years of strategy and corporate finance research. The important issue that needs to be addressed in research that tries to establish the relationship between environment, strategy, structure, and firm performance pertains to the identification of variables that represent the firm performance construct.

A firm's performance can be measured in terms of its profitability and market performance. Typically, profitability is measured in terms of return on the capital invested in the business or return on the revenues generated during a given period. On the other hand, market performance is measured in terms of market indicators such as share price and dividend yield ratio. The objective of this study will be to operationalize those measures of performance that have been tested in past studies to have a significant relationship with the environment, corporate strategy, and capital structure of the firm[6].

Studies on performance measures include Beard and Dess (1981), and Hall and Weiss (1969). Beard and Dess (1981) used return on investment as the measure of firm performance, which was used to test the relationship between corporate level strategies and firm performance using regression analysis. Results revealed that corporate level strategies influenced firm performance. Hall and Weiss (1967) used "Return on Assets" as the performance measure to test the relationship between firm size and profitability. Correlation analysis was used as the statistical method and results indicate that a negative correlation exists between firm size and profitability.

[5] See page 28.
[6] Also refer to the section on "Relationship between the Constructs" on page 28.

A study conducted by Capon et al. (1990) reviewed 320 empirical studies (165 in economics and industrial organization literature, and 155 in the management literature) published between 1921 and 1987 that used the meta-analytical technique to summarize the statistical results in the literature on industry, firm, and business performance. This study revealed that the types of measures used to capture return on investment included return on equity, return on capital, return on assets, return on sales, and price/cost margin. These returns represent the profitability measures to assess the firm performance. This study will incorporate both market performance measures as well as firm profitability measures to test the relationship between the environment risk, corporate strategy, capital structure, and their impact on performance. Market performance measures are corporate performance indicators and therefore result from the aggregation of SBU performance within a given corporation.

The profitability of a firm can be measured to include the effects on two stakeholders, i.e. bondholders and stockholders. Since these two groups of investors have different perspectives on a firm's performance, it is essential to pinpoint which group will be benefited because of external environment effects, corporate strategy and capital structure decisions. Therefore, the performance construct will be operationalized to include measures that are a barometer of stakeholder satisfaction, categorized as two distinct types, i.e. accounting measures and cash flow measures. Indicators such as return on equity and return on assets are accounting measures which reflect stockholder satisfaction, and indicators such as free cash flow per share are finance-related ratios that may indicate bondholders' willingness to invest in the firm.

Relationship between the Constructs

In the strategy domain, the relationship between the environment risk and the strategy constructs was elucidated through several research studies done in the sixties, seventies and in the eighties. Within the context of corporate finance, this relationship translates into environment risk and its effect on corporate strategies. Environment risk that results in variation of cash flows, in context of both the present and future, may lead to growth strategies. For instance, Ross et al. (1999) suggest that the relationship between risk and return is positive. The higher the market risk of a stock, the higher the return that the stockholders seek by investing in that stock (Ross et al., 1999; Fewings, 1979). On the other hand, Veliyath (1996) suggests that the relationship between business risk and performance is negative. The higher the business risk, the lower will be the firm performance. Titman & Wessels (1988) suggest that the relationship between firm risk and debt level is negative. This relationship is applicable to a firm's business risk as the authors operationalized firm risk using earnings.

The relationship between business risk and firm growth, *vis-a-vis* sales and assets was tested by Shepherd (1972), who found a negative correlation between the two variables. Oviatt and Baurschmidt (1991) state that "logically, variability in the rate of business growth is likely to be accomplished by variability in returns or high risk"

(p.1409). Growth strategies can be achieved through related or unrelated diversification strategies (Rumelt, 1974), which may in turn result in better firm performance, an outcome with mixed yet inconclusive results as far as past research in this area is concerned (Hoskisson & Hitt, 1990). Moreover, according to Kim et al. (1998), industry effects may lead to different performance outcomes, *vis-a-vis* the relationship between growth and firm performance. Note that Hall & Weiss (1983) tested profitability to have a positive relationship with asset growth. The concept of growth in this case is based on firms' capabilities to increase their asset base in order to meet the market growth opportunities.

On the other hand, corporate liquidity strategy has been tested to be correlated to the external environment risk. Firms with a higher volatility of earnings and lower return on physical assets typically invest in more liquid assets if the return on liquid assets is relatively higher to that of physical assets. Furthermore, the relationship between liquidity and performance has been tested, which reveals a positive relationship between liquidity and cash flow measures, i.e. free cash flow (Kim et al., 1998). Furthermore, the firm's earnings risk will have a negative relationship with debt levels (Titman & Wessels, 1988). In other words, if the environmental conditions lead to higher volatility of earnings, this would result in lower debt levels. Ross et al. (1999) suggest that firms with higher growth potential will have lower debt as compared to firms that have a lower potential to grow.

The strategy domain has witnessed research work pertaining to the relationship between firms' strategy and structure, pioneering as early as 1962 by Chandler, who suggested that structure follows strategy. Other studies that delved into corporate strategies include Ansoff (1965). The relationship between growth strategy and performance has not been tested in the restaurant industry, although this may have been tested in the management domain.

The relationship between growth strategies and liquidity tested by Kim et al. (1998) indicate that the direction of the relationship was positive. Higher growth strategy of firms will be based on a higher level of liquidity that such firms will have. The relationship between the growth strategy and the capital structure constructs was suggested by Barton & Gordon (1987). The authors propose that a firm's sales growth rate will have a positive relationship to debt levels. This further indicates that if the environmental conditions are favorable for the firm's growth, debt will be used lesser to fund that growth than equity. On the other hand, Ross et al.(1999) suggest that firms with high growth potential or from industries that grow at a faster rate have lower levels of debt as compared to firms from low growth industries.

On the other hand, the relationship between growth in assets and sales "show positive relationships to performance" (Capon et al, 1990; p. 1148). Furthermore, "growth analyzed in 88 studies, is consistently related to higher financial performance" (p. 1148). The need to test proxies for growth in relation to firm performance is called for in the case of restaurant firms, as the industry has seen the use of this strategy as a primary vehicle of value addition. This notion is not yet proven to be the case, which

needs to be tested for stakeholders of the industry to be certain about the outcome between growth and firm performance, and the level to which this strategy needs to be used. This will in turn help in the formulation and implementation of effective corporate and business level strategies.

The relationship between liquidity and capital structure of the firm was tested by Kim et al. (1998) who found that as the firm invests more in liquid assets, it will result in lower reliance on debt, and hence, will result in a lower debt ratio. This was confirmed by Baskin (1987), who reported that the relationship between debt and liquidity is negative. On the other hand, the relationship between debt structure and performance was reported by Capon et al. (1990), who suggested that out of the 149 relationships reported using debt as the independent variable and firm performance as the dependent variable, 90 reported a negative relationship between firm debt level and performance. Shah (1994) demonstrated that changes in capital structure affects stock prices, which in some ways was confirmed by Harris and Raviv (1990), who suggested that there is a positive correlation between leverage and firm value. Note that liquidity strategy can be used by firms to increase their value, which needs to be tested in the context of the restaurant industry. The above relationships between constructs and variables will be operationalized and tested in the following chapter.

Summary

This chapter explores the literature in strategic management and corporate finance pertaining to the definition and theoretical underpinnings of the constructs defined within the co-alignment model. The constructs and their dimensions were identified and the variables that represent each dimension were explored in terms of the research that exists in the domains. The interaction between the constructs and variables in terms of the work done by researchers were explored to highlight the key relationships that will be used in the development of hypotheses, which will be delved into in the following chapter.

Chapter 3

Research Methodology

Introduction

The focus of this chapter is to operationalize the constructs identified and described in the previous chapter. The following pages of this chapter include a description of the measures that represent the constructs; and subsequently hypotheses that capture the relationship between the constructs and variables will be developed. The hypotheses development will be aimed at capturing the relationship between the constructs. It is important to restate the research questions before the constructs are operationalized and hypotheses are developed. They include:

1. Does environment risk, defined by the variables and dimensions used in prior finance research, i.e. economic risk, credit risk, business risk, and market risk explain the corporate strategies, *vis-a-vis*, growth and liquidity strategies that firms engage in, as a result of the effects the former has on the latter?
2. Do these corporate strategies significantly impact the capital structure of the firm, in that is the choice of capital structure of the firm dependent on corporate strategies? More specifically, do the dimensions of corporate strategy, i.e. growth and liquidity explain a significant amount of variance in the choice of capital structure? If so, what are these impacts in terms of the source of funds and their representation in the capital structure of the firm?
3. Is firm performance better explained by the alignment between the environment risk, strategy and capital structure constructs?
4. Are growth strategies value adding strategies which result in improved firm performance?

Operationalizing the Constructs and Dimensions

The Environment Risk Construct

The three dimensions of the environment risk construct identified in this study are economic risk, business risk, and market risk. These risk dimensions capture the uncertainty element of the environment construct, predominantly used in finance and strategic management research. Economic risk will be operationalized using the annualized growth rate in quarterly GDP data for the time period 1990 to 2000 and the restaurant firm's annualized quarterly sales growth rate over the same time period. Since the sample will include corporations within the United States, the GDP used for the study will be ones representing the U.S. economy. The covariance between the GDP and the firm's sales will be calculated using the slope function, equivalent to what is referred to as *beta*. This beta will signify how the company's sales growth covaries with that of the

GDP growth rate over the time period the data is analyzed[7]. Ross et al. (1999) suggest that the use of such measures is essential in capturing the systematic risk that the firm is exposed to.

The business risk dimension will be operationalized using the firm's operating cash flows and the average of the S&P 500 operating cash flows. Quarterly data for the firm and the S&P 500 firms will be collected for the time period 1990 through 2000. The covariance between the firm's operating cash flows with that of the market's operating cash flows will be calculated using the slope function. The resulting beta signifies how the firm's cash flow covaries with that of the market. The business risk will be operationalized using the beta of the firm's cash flows to the market cash flows. The beta is an indicator of the way in which the firm's cash flows vary in relation to the market, and this will help capture the risk that this covariance presents to the firm. This measure was used by Pettit & Westerfield (op. cit.), and a similar measure, i.e. "Earnings Beta" was used by Fewings (1979). Moreover, Thompson (1976) suggested the use of covariant form of explanatory variables, i.e. *beta* in testing the relationships that involve firm risk and performance variables.

Market risk will be captured using the covariance of the firm s stock price with that of the market, represented by market beta. This will indicate the riskiness of the firm in terms of its stock performance with that of the market (Ross et al., 1999). Quarterly stock price for the period 1990 through 2000 of the firm will be gathered and the slope function of the firm's stock price with that of the market (S&P 500 average) will be calculated to determine the covariance.

The Corporate Strategy Construct

Growth Strategy

The first dimension of the corporate strategy construct is sales growth. Sales growth will be operationalized using the company's annualized quarterly sales growth for the period 1995 through 2000, which will then be averaged over the time period. The averaging of the firm's sales growth will help address the crests and troughs of growth the company may have had over the time period.

The second dimension of corporate strategy, i.e. asset growth will be operationalized by averaging the firm's market value of assets reported on a quarterly

[7] The GDP of a country is a macro-economic variable, which indicates the position of an economy. Note that economic risk as a variable will help capture the relationship between the macroeconomic environment and the firm's task environment. Since GDP is an overall indicator of the state of the economy, economic risk as a variable will help capture the relationship between factors that are influenced by the state of the economy such as "Food Away from Home Expenses," which may directly/indirectly impact the restaurant industry. Since several such variables would need to be used in order to be able to capture the economic risk that the firm is exposed to, which by themselves may not be sufficient depending on the firm's characteristics, the use of GDP is warranted as an overarching variable that influences or are influenced by these more micro-level variables.

basis for the time period 1990 through 2000. Again, by averaging the market value of assets, the crests and troughs of firm's asset growth will be addressed.

The third dimension of corporate strategy, i.e. the firm's future growth potential will be operationalized using the firm's market value of assets divided by its book-value of assets (Kim et al., 1998). This ratio signifies how well the firm manages its investment (Ross et al., 1999). This ratio is interpreted as: a ratio of above 1 implies good investment strategy on part of the firm's management, and a ratio of below 1 signifying poor investment strategy. Smith & Watts (1992) and Stohs & Mauer (1996) use this ratio as a proxy for growth options. The reasoning provided by the authors is based on the fact that the value of intangible assets is not reflected in the book-value of assets; therefore the ratio of market to book-value of assets would capture the growth options. A higher value of market-to-book-value of assets for the firm is an indicator of more growth options in the firm s investment opportunity set.

Liquidity Strategy

Liquidity will be operationalized using LIQRAT (Kim et al., 1998; John, 1993), which is the ratio of cash plus marketable securities to the book-value of assets. This ratio signifies the proportion of the firm's total assets that are highly liquid, which in turn reflects how well it manages its liquidity position on a period-to-period basis.

The Capital Structure Construct

The capital structure construct will be operationalized using the debt ratio (Kim et. al, 1998), which is the firm's total debt divided by its total assets. Total debt of the firm will be calculated by including both long-term debt as well as current portion of long-term debt, reported in the current liability section of the balance sheet.

Firm Performance Construct

The performance construct will be operationalized using traditional measures of firm performance. These measures can be categorized into accounting measures and finance measures of performance. As detailed in Chapter 2, the accounting measures of firm performance include return on assets and return on equity. On the other hand, finance measures of firm performance include variables that capture the cash flows such as free cash flow per share and operating cash flow per share. This study will use both accounting measures as well as finance measures to test the effects of the constructs on firm performance. The measures that will be used will include return on equity that will represent the accounting measure of performance and free cash flow per share, which will represent the finance or cash flow measure of firm performance. The quarterly data for these measures will be averaged over the time period 1995 through 2000. This will help in capturing the lead and lag effects between the performance construct and other constructs used in this study.

Control Variables

Variables other than the independent variables will be used to control for factors that might have a significant relationship with the dependent and independent variables. This will help control for spurious relationships between variables. The data sample will be controlled for country effects and industry effects. This is insured by selecting a sample of restaurant firms that operate only in the U.S. or have more than eighty percent of their operations within the U.S. Since these firms are from the restaurant industry, industry effects will be controlled for as a result of this.

Other variables that will be used as control variables include size of the firm. Large firms may have a different effect in terms of the relationship between dependent and independent variables of constructs such as environment risk, corporate strategy, capital structure, and firm performance. Therefore, size needs to be controlled for to determine if this is the case. Also, when testing the liquidity of a firm, it is important to control for cash flow effects as well as the level of debt that the firm has along with the size effects. Other instances in which control variables will be used include testing the relationship between capital structure and performance. In this case, sales growth will be used as a control variable that may affect the debt structure of the firm as well as performance of the firm. The variables that serve the purpose of control variables will be identified in each analysis.

Developing Hypotheses

The co-alignment model theorizes the relationship between the constructs *vis-a-vis* the environment, strategy, structure, and firm performance. The previous sections have elucidated the relationships between constructs, and this section will develop and propose hypotheses using the variables stated in the previous section. This section is divided into subsections that develop hypotheses depicting the relationship between the independent variable and dependent variable. These sub-sections include: (a) Environment Risk and Corporate Strategy; (b) Environment Risk and Capital Structure; (c) Environment Risk and Firm Performance; (d) Corporate Strategy and Capital Structure; (e) Corporate Strategy and Firm Performance; (f) Capital Structure and Firm Performance; (g) Environment, Corporate Strategy; Capital Structure, and Firm Performance.

Environment Risk and Corporate Strategy (Growth Strategies)

The first element of the environment construct, i.e. economic risk is hypothesized to have a negative relationship with growth strategy. Since growth strategies include three variables, i.e. sales growth, asset growth, and growth potential, it is hypothesized that economic risk will have a significant negative effect on sales growth and growth potential of the firm and not on asset growth of the firm. This is because economic risk is defined as the covariance of firms' sales growth with that of the GDP growth. This further indicates that the higher the risk, the more it will significantly affect the firm's sales as compared to its asset growth.

Note that the relationship between economic risk and sales growth translates into variability in earnings, which creates business risk. Therefore, the direction of the relationship between the two variables will be the same as that of firm risk and sales growth, which was tested to be negative by Oviatt & Bauerschmidt (1991) and Shepherd (1972). The relationship between economic risk and asset growth of the firm is not hypothesized in this study as the relationship is considered to be indirect and insignificant. This leads to hypothesis 1(a):

H1(a): ***There will be a significant negative relationship between economic risk and sales growth ceteris paribus. As economic risk increases, sales growth of the firm will decrease. On the other hand, a decrease in economic risk will favor sales growth.***

Economic risk will affect the growth potential of the firm, as a firm that is exposed to more economic risk may typically have lower growth potential as compared to firms that are exposed to lower economic risk. This is also because of the effect of economic risk on sales growth. As stated earlier, firms that are more exposed to economic risk are likely to have lower sales growth (see hypothesis H1), which will also affect the firm's sales growth potential. This further affects the overall growth potential of the firm. Therefore, economic conditions that lead to higher risk will result in lower growth potential. Likewise, lower economic risk will lead to higher growth potential. This leads to Hypothesis 1(b):

H1(b): ***There will be a significant negative relationship between economic risk and the firm's growth potential ceteris paribus. The higher the firm's economic risk, the lower will be its growth potential. On the contrary, the lower the economic risk, the higher will be the firm's growth potential.***

The second dimension of the environment risk construct, i.e. business risk defined as the covariance of the firm's cash flows with that of the S&P 500 average (Pettit & Westerfield, op. cit.), will have a negative effect on the firm's growth potential. This is because higher business risk will affect the firm's cash flows, which will in turn affect the firm's market value of assets. This will result in a decrease in growth potential of the firm. Note that as per Oviatt & Bauerschmidt (1991), the relationship between firm risk and growth is negative, which in fact would also be true in the case of the relationship between firm risk and growth potential. The underlying assumption that firms with lower sales growth will typically have lower growth potential is justifiable, as these types of firms would not have lower sales growth and higher growth potential.

On the other hand, a decrease in business risk will lead to a decrease in variance of cash flows, which may lead to an increase in profitability. Moreover, the increase or decrease in business risk will affect the market capitalization of the firm (Schwartz, 1959), which in turn will affect the market value of assets and hence its growth potential. Note that a firm's business risk emanates from the way it performs in terms of operating cash flow in comparison to the industry. An operating cash flow beta, which indicates how the firm s cash flows covary with that of the industry average, of greater than 1 is an

indicator of how much more the firm's cash flows covary with that of the market average; and a beta of below 1 is an indicator of how less the covariance is as compared to the market average. This leads to hypothesis 2:

H2: ***There will be a significant negative relationship between a firm's business risk and growth potential ceteris paribus. The higher the business risk, the lower will be its growth potential. On the contrary, the lower the business risk, the higher will be its growth potential.***

The firm's market risk defined as the covariance between the firm's market price of stock with that of the S&P 500 average is hypothesized to have a positive effect on sales growth. This is because market risk is directly related to returns, as proposed by researchers. Higher the market risk, higher will be the risk premium (Copeland & Weston, 1983; Ross et al., 1999), and hence higher will be the return. Therefore, these firms would pursue high growth strategies to increase their earnings potential in order to reduce the risk levels to the average market beta of 1. This may lead to the pursuance of high sales growth, assets growth, and overall growth potential of the firm. This leads to hypothesis 3 (a):

H3(a): ***There will be a significant positive relationship between market risk and sales growth ceteris paribus. The higher the market risk, the more the firm will pursue sales growth strategy.***

Likewise, firms that have a higher market risk would pursue high growth strategies, which include asset growth. This follows the explanation provided above for sales growth, in that since more assets would be required to pursue high sales growth strategy, the market value of these assets would grow at a faster rate as compared to the average firm with lower market risk[8]. This leads to hypothesis 3(b):

H3(b): ***There will be a significant positive relationship between a firm's market risk and its asset growth ceteris paribus. The higher the market risk, the higher will be the asset growth strategy. The contrary will be true when market risk is low.***

Market risk will have a positive effect on the growth potential of the firm. Since a firm with higher market risk will pursue higher growth strategies (from hypothesis 3b), its growth potential will also increase. The increased sales growth will be reflected in the increased market value of shares, which will in turn increase the MVA to BVA ratio. Moreover, firms with higher market risk typically have a more aggressive market posture, which in turn will have a positive effect on its future growth potential (Oviatt & Bauerschmidt, 1991). The contrary will be true when the market risk is low as compared to the average firm. Such firms will have lower growth potential as a result of lower sales and asset growth. This leads to hypothesis 3(c):

[8] This relationship is seen in the case of firms such as Boston Market, which grew in assets as their sales grew. Their market capitalization also grew as Wall Street rewarded the firm with its growth in sales (source: www.nrn.org, obtained via ABI Inform).

H3(c): ***There will be a significant positive relationship between market risk and growth potential of firms ceteris paribus. The higher the market risk, the greater will be the growth potential. The contrary will be true when market risk is low.***

Environment Risk and Corporate Strategy (Liquidity)

Since liquidity is defined as the ratio of cash plus marketable securities and total assets, the component of environment risk that will have a significant effect on it will be business risk. Business risk is a function of the way the firm's operational cash flows move with that of the S&P average; and therefore by definition, a high level of business risk will indicate that the firm is low on liquidity as compared to a situation in which the business risk is low. Moreover, a firm with higher business risk will have lower levels of operating cash flows to be able to sustain higher levels of liquidity (Veliyath, 1996). Cash and short-term investments influence the operating cash flow; and hence, higher business risk will impact a firm's liquidity position in a negative way. This leads to hypothesis 4:

H4: ***There will be a significant negative relationship between business risk and liquidity ceteris paribus. The higher the business risk of the firm, the lower will be its liquidity position. The opposite will be true in the case of lower business risk.***

Note that there will be no significant relation between economic risk and liquidity, and market risk and liquidity. This is because the relationship between how a firm's sales growth moves with that of the macroeconomic indicator, i.e. GDP growth, and its effect on liquidity is not direct, and therefore, it cannot be determined if a higher level of economic risk leads to a higher level of liquidity position. Firms with higher level of economic risk may be more illiquid as compared to firms with lower levels of economic risk and/or vice versa. Liquidity is a function of how cash is managed by the business and is not necessarily an indicator of how high or low the economic risk it faces.

The same is true for market risk. A firm with high market risk may or may not be high on liquidity. Market risk is a function of how the firm's stock price moves with that of the market, and hence, this covariance may not have a direct effect on how high or low it is on cash and short-term investments. As a result, the two risk dimensions, i.e. economic risk and market risk is determined to have no significant relationship with the liquidity strategy of the firm.

The following equations are developed based on the hypotheses that capture the theoretical relationships between environment risk and corporate strategy.

Equation 1:

- Sales Growth = b0 - b1* economic risk + b2* market risk + b3* firm size

Equation 2

- Asset Growth = b0 + b1* market risk + b2* firm size

Equation 3

- Growth Potential = b0 - b1* economic risk - b2* business risk + b3* market risk + b4* firm size

Equation 4

- Liquidity = b0 - b1 * business risk - b2* firm size + b3* sales growth

Environment Risk and Capital Structure

There may exist a negative relationship between business risk and debt structure. The higher the business risk, the lower would be the debt ratio of the firm. This is because a firm with higher business risk would have a higher covariance in cash flows as compared to the market average, and as a result would try to reduce the leverage and the risk associated with it to be perceived as a firm with lower risk. Firms with a higher earnings risk will typically be exposed to bankruptcy (Ross et al., 1999; Titman & Wessels, 1988), and therefore will be more conservative in the use of debt in the capital structure. This is supported by the fact that firms will be wary of bondholder claims on the firm when earnings do not meet minimum levels to sustain the firm s life (Ross et al, 1999). Therefore, such firms will use lower levels of debt as compared to firms that have lower earnings risk (Barton & Gordon, 1988). Since the firm's cash flow from operations is used to service debt, it will reduce the level or maintain lower levels of debt in order to manage the risk associated with the covariance in cash flows with that of the market. This leads to hypothesis 5:

H5: ***There will be a significant negative relationship between a firm's business risk and debt ratio ceteris paribus. The higher the business risk, the lower will be its debt ratio. The opposite will be true in the case of lower business risk.***

The following equation depicts the hypothesized theoretical relationship between the capital structure construct and environment risk variables:

Equation 5

- Debt Ratio = b0 - b1* business risk + b2* firm size - b3* liquidity

Environment Risk and Firm Performance

The risk factor that emanates from the firm's environment has an impact on performance. Measures that depict firm performance can be categorized as accounting

measures and finance or cash flow measures. Typically, an increase in environment risk (systematic risk) impacts firm performance in a negative way (Fewings, 1979). For instance, higher economic risk would suggest that the firm's sales covariance with the GDP is higher as compared to the average firm, which typically should have a negative impact on the firm's revenues. Because of this increased risk exposure, the firm's bottomline will be affected, measured in terms of return on equity or return on assets. These accrual returns are more dependent on the revenue level the firm generates on a period-to-period basis because the risk exposure translates into performance variance, impacting variables such as operating income and net income. This leads to hypothesis 6(a):

H6(a): ***There will be a significant negative relationship between economic risk and firm performance. The higher the economic risk, the lower will be the performance measured as return on equity. On the other hand, the lower the economic risk, the higher will be the performance.***

It should be pointed out that economic risk might not have a direct impact on finance or cash flow measures. These measures are based on the cash position of the company. This is measured for instance, in terms of free cash flow per share, which is dependent on how the firm manages its cash flows on a period-to-period basis. Similarly, business risk does not affect a firm's accounting measures of performance, as it impacts the cash flow measures more than the accounting income. On the other hand, business risk will have a direct impact on the cash flow of the firm and therefore will affect the free cash flow per share (see hypothesis 2). This is because an increase in business risk results in a direct impact on operating cash flow of the firm, which in turn decreases the free cash flow[9] of the firm. The contrary will hold good if business risk decreases. This is supported by Veliyath (1996), who suggested that there exists a negative relationship between business risk and firm performance. This leads to hypothesis 6(b):

H6(b): ***There will be a significant negative relationship between business risk and free cash flow per share ceteris paribus. The higher the business risk, the lower will be the free cash flow per share. The contrary will be true for lower business risk.***

Similarly, an increase in market risk indicates that the covariance of the firm's market price of stock with that of the market is greater than that of the average firm. This can translate into a decrease in free cash flow per share, as increased market risk may have a direct impact on the firm's operating cash flows in the medium to long-term, which results from increased costs associated with debt servicing and working capital (Ross et. al, 1999). Also, firms with higher market risk may have higher capital expenditure costs as compared to firms with lower market risk for comparable investments (Hatten & Schendel, 1977). This is because firms that have a higher market risk may be perceived as more risky in terms of returns on a given investment, and therefore would have to bear higher costs associated with projects as compared to firms with lower market risk. This leads to hypothesis 7(c):

[9] Free cash flow per share is operationalized by subtracting capital expenditure from operating income before depreciation, and then divided by the total no. of common shares outstanding.

H6(c): ***There will be a significant negative relationship between the firm's market risk and its free cash flow per share ceteris paribus. The higher the market risk, the lower will be the free cash flow per share. The opposite will be true when market risk is lower.***

On the other hand, there will be a positive impact of market risk on return on equity. Higher the market risk, higher will be the expected return that investors (stockholders) would seek from the firm's investments (Ross et. al, 1999, Fewings, 1979). This will lead firms to provide higher returns to satisfy the needs of investors, while being able to attract them in the first place. Therefore, the relationship between risk and return will help explain the direction of relationship between market risk and stockholder's return (return on equity). This leads to hypothesis 6(d):

H6(d): ***There will be a significant positive relationship between market risk and return on equity ceteris paribus. The higher the market risk, the higher will be the rate of return that firms will have to provide to their stockholders to satisfy them. On the other hand, the firm may not need to compensate stockholders with higher return if the market risk is lower than the market average.***

The following equations depict the hypothesized theoretical relationships between environment risk variables and firm performance:

Equation 6

- Performance (Cash flow) = b0 - b1* business risk - b2* market risk + b3* liquidity + b4* firm size

Equation 7

- Performance (Accrual) = b0 - b1* economic risk + b2* market risk - b3* firm size

Interaction between Dimensions of Corporate Strategy

The corporate strategies as pointed out earlier include growth and liquidity strategies. The relationship between the growth and liquidity position of a firm would have an effect on the overall firm strategy. It is therefore essential to test how the two strategy types interact with each other. This interaction is defined as the effect growth has on liquidity, which will help understand how strategy types influence the overall firm strategy formulation and implementation.

The relationship between sales growth and liquidity is hypothesized to be positive. Higher the sales growth, higher would be the liquidity position. This would be true if the assumption holds good that the increased growth in sales has the same percentage of liquidity in terms of cash and credit revenue as compared to the firm's original position, or if the ratio of cash sales to credit sales were to increase in the

increased sales level of the firm. Given this assumption, and given the assumption that the cost structure of the firm will increase at decreasing rates when sales increases due to economies of scale (Hill & Jones, 1995), the relationship between the firm's sales growth and liquidity position will be positive. This leads to hypothesis 7(a):

H7(a): ***There will be a significant positive relationship between sales growth and liquidity position ceteris paribus. The higher the sales growth of the firm, the higher will be its liquidity position and vice versa, ceteris paribus.***

The relationship between the firm's growth potential and liquidity position will be positive (Kim et al., 1998). This is because a firm with a higher growth potential would need to be more liquid in order to fund its operations and asset growth to meet the growth potential. Moreover, it is assumed that the firm's liquidity position will influence its market value, which in turn will increase its growth potential. Note that a firm's asset growth per se may not be related to its liquidity position. Illiquid firms may use high interest bearing debt instruments to fund its asset growth. Therefore, the relationships between asset growth and liquidity and vice versa were considered to have no affect on each other. This is not the case with growth potential because it is dependent on how the firm's liquidity position can influence its working capital and funding needs, and also to maintain its market value at higher levels in order to grow. Note that the market's reaction to growth potential of the firm translates into stock price reaction, which is also dependent on the firm's investment scenario (Pilotte, 1992). This leads to hypothesis 7(b):

H7(b): ***There will be a significant positive relationship between the growth potential of the firm and its liquidity position ceteris paribus. The higher the growth potential, the greater will be its liquidity position.***

The following equations capture the hypothesized interactions between the corporate strategy types/ dimensions:

Equation 8

(1) Liquidity = b0 + b1* sales growth - b2* firm size
(2) Liquidity = b0 + b1* growth potential - b2* firm size

Corporate Strategy (Growth) and Capital Structure

The relationship between growth strategies and capital structure of the firm has been tested in the finance literature in the past and is affirmed to be negative. This study uses the finance perspective of the impact of growth strategy on capital structure, which indicates that as a firm's potential for growth increases, it will decrease the level of its debt or debt ratio (Ross et al., 1999). Based on this, it is hypothesized that the firm's growth potential would have a negative relationship with its debt ratio. This can be explained by the fact that a firm's leverage or financial riskiness may have a negative effect on its market price of share (Schwartz, 1959), which in turn will affect its growth

potential. Therefore, firms that have a higher growth potential will have lower levels of debt in their capital structure. This leads to hypothesis 8:

H8: ***There will be a significant negative relationship between a firm's growth potential and its debt ratio ceteris paribus. The higher the growth potential, the lower will be its debt ratio. The contrary will be true for firms with a lower growth potential.***

Corporate Strategy (Liquidity) and Capital Structure

Firms that are more liquid will have a lower debt position as compared to firms that are more illiquid (Baskin, 1987). This is based on the fact that increased debt will lead to a decrease in operating cash flows of the firm as a result of increased debt services ceteris paribus. Therefore, more liquid firms will decrease the level of debt in their capital structure to maintain higher liquidity levels. This leads to hypothesis 9:

H9: ***There will be a significant negative relationship between liquidity and debt ratio ceteris paribus. The higher the liquidity, the lower will be the debt ratio. On the contrary, firms with lower liquidity levels will have higher debt ratio.***

The following equation captures the hypothesized theoretical relationship between corporate strategy and capital structure:

Equation 9

- Debt Ratio = b0 + b1* growth potential - b2* liquidity + b3* firm size

Corporate Strategy (Growth) and Firm Performance

Firms that pursue a high sales growth strategy will have a positive impact on performance (Capon et al., 1990). Here performance is measured as the firm's return on equity. Firms that increase sales growth while using their assets efficiently leading to optimal use of resources will impact their return on equity in a positive way. The underlying assumption is that the firm's cost structure changes at the same rate of sales growth or at a decreased rate because of economies of scale (Hill & Jones, 1995). This leads to hypotheses 10(a):

H10(a): ***There will be a significant positive relationship between sales growth and return on equity ceteris paribus. The higher the sales growth, the higher will be the return on equity.***

Firms with a greater future potential to grow will have a negative relationship with free cash flow. Growth potential indicates a firm's ability to grow in the future as a result of its sound investment strategies. This is supported by the argument that a firm that has higher future growth potential will have higher capital expenditures to fund the future growth (Barton & Gordon, 1988), which will lead to lower free cash flow per share. Note that free cash flow per share is arrived at by subtracting capital expenditures

from operating cash flows. Firms will need to invest in competitive methods and core competencies today to improve their overall future growth (Prahalad & Hamel, 1990; Olsen et al., 1998), which in turn will lead to a decrease in free cash flows. This leads to hypothesis 10(b):

H10(b): ***There will be a significant negative relationship between growth potential of the firm and free cash flow per share ceteris paribus. The greater the future growth potential, the lower will be the free cash flow per share. The contrary will be true if the firm's future growth potential is lower.***

Corporate Strategy (Liquidity) and Firm Performance

Firms that pursue a high liquidity strategy will have a positive effect on free cash flow per share. Kim et al. (1998) tested the relationship between free cash flow per share and liquidity, which was tested to be positive. The reverse effect will be used in the present study. This is because the firm that pursues to increase its liquidity position would typically increase its operating cash flows. This is assuming that there is no significant change in the capital expenditure of the firm during this period. The contrary will be true for firms that are more illiquid as compared to firms that are more liquid. This leads to hypothesis 11(a).

H11(a): ***There will be a significant positive relationship between the liquidity strategy of the firm and free cash flow per share ceteris paribus. The higher the liquidity position of the firm, the more the positive effect it will have on free cash flow. The contrary will hold true for firms that are low on liquidity.***

On the other hand, the relationship between firm liquidity and return on equity is hypothesized to be negative. Firms that are more liquid have more cash and marketable securities as compared to the average firm, which in other words indicates that such firms have more cash reserves. A firm that holds on to its earnings in the form of cash reserves will typically do so at a higher opportunity cost (Ross et al., 1999). In other words, such firms give up the opportunity of investing their excessive liquid assets in investments that help increase firm return in the future. This leads to hypothesis 11(b):

H11(b): ***There will be a significant negative relationship between liquidity and return on equity ceteris paribus. The higher the firm's liquidity, the lower will be the return on equity. On the other hand, firms that are not too high on liquidity will impact return on equity in a positive way.***

The following equations capture the hypothesized theoretical relationships between corporate strategies, i.e. growth and liquidity and firm performance:

Equation 10

(1) Performance (cash flow) = b0 - b1* growth potential + b2* firm size
(2) Performance (cash flow) = b0 + b1* liquidity + b2* firm size

Equation 11

- Performance (accrual) = b0 + b1* sales growth - b2* firm size - b3* liquidity

Capital Structure and Firm Performance

Firms that use a higher level of debt in their capital structure as compared to firms that use a relatively lower level of debt will have a negative impact on their return on equity, ceteris paribus (Arditti, 1967; Hall & Weiss, 1967; Gale; 1972). The increased debt level will increase the debt services through increased interest expense, which will lower the net income available to share holders (Damodaran, 1997; Ross et al., 1999). This is assuming that the overall operating cost structure of the firm remains the same or changes marginally so as not to affect performance in a significant way over the time period. An increase in debt level will also increase the probability of the firm's bankruptcy (Damodaran, 1997), which will lead to an increase in costs associated with financing the firm's strategy. The contrary will be true when the firm's debt ratio decreases over a given time period. This leads to hypothesis 12:

H12: ***There will be a negative relationship between debt level and return on equity ceteris paribus. The higher the debt level, the lower will be the return on equity. The opposite will be true when the firm's debt ratio decreases.***

The following equation will capture the hypothesized theoretical relationship between capital structure and firm performance:

Equation 12

- Performance (accrual) = b0 - b1* debt ratio - b2* firm size - b3* liquidity

Environment, Corporate Strategy, Capital Structure, and Firm Performance

As pointed out earlier, firms that have an alignment between the constructs, i.e. environment, strategy and structure will perform better than those firms that do not have an alignment between these constructs (Olsen et al., 1998). This forms the basis of the co-alignment model, which becomes the premise on which the final hypothesis is developed. The firm's performance will be superior to other firms if it is able to manage the environmental forces, develop a corporate strategy, *vis-a-vis* growth and/or liquidity that is in alignment with the environment forces, and choose a capital structure to support the corporate strategy. The model with all the measures representing the aforementioned constructs will help explain a significant variance in firm performance represented by free cash flow per share and return on equity. In other words, this model will hold good to explain the variance in performance using both finance and cash flow measures as well as accounting measures of performance. This leads to hypothesis 13:

H13: ***Variables of the model that represent the construct environment risk, corporate strategy, and capital structure will explain a significant amount of variance in firm performance that includes cash flow measures, i.e. free cash flow per share as well as accrual measures, i.e. return on equity of the firm.***

Hypotheses that test the incremental relationship between one or more of the above constructs and performance will also be tested and these models will be compared to test and verify the above hypothesis, *vis-a-vis* the co-alignment principle. To see which of the models are best in terms of explaining performance, incremental models will be tested with performance as the dependent variable and environment, corporate strategy, and capital structure as the independent variables. These incremental theoretical models will be of the following types:

Environment, Corporate Strategy, and Performance

Equation 13 (a)

- Performance (cash flow) = b0 - b1* business risk - b2* market risk + b3* asset growth + b4* growth potential + b5* liquidity + b6* firm size

Equation 13 (b)

- Performance (accrual) = b0 - b1* business risk + b2* market risk + b3* sales growth - b4* liquidity - b5* firm size

Environment, Capital Structure, and Performance

Equation 13(c)

- Performance (accrual) = b0 - b1 * economic risk + b2* market risk - b3* debt ratio - b4* firm size

Environment, Corporate Strategy, Capital Structure, and Performance

Equation 13(d)

- Performance (cash flow) = b0 - b1* business risk - b2* market risk + b3* asset growth + b4* growth potential + b5* liquidity + b6* firm size

Equation 13(e)

Performance (accrual) = b0 - b1* economic risk + b2* market risk + b3* sales growth - b4* liquidity - b5* debt ratio - b6* firm size

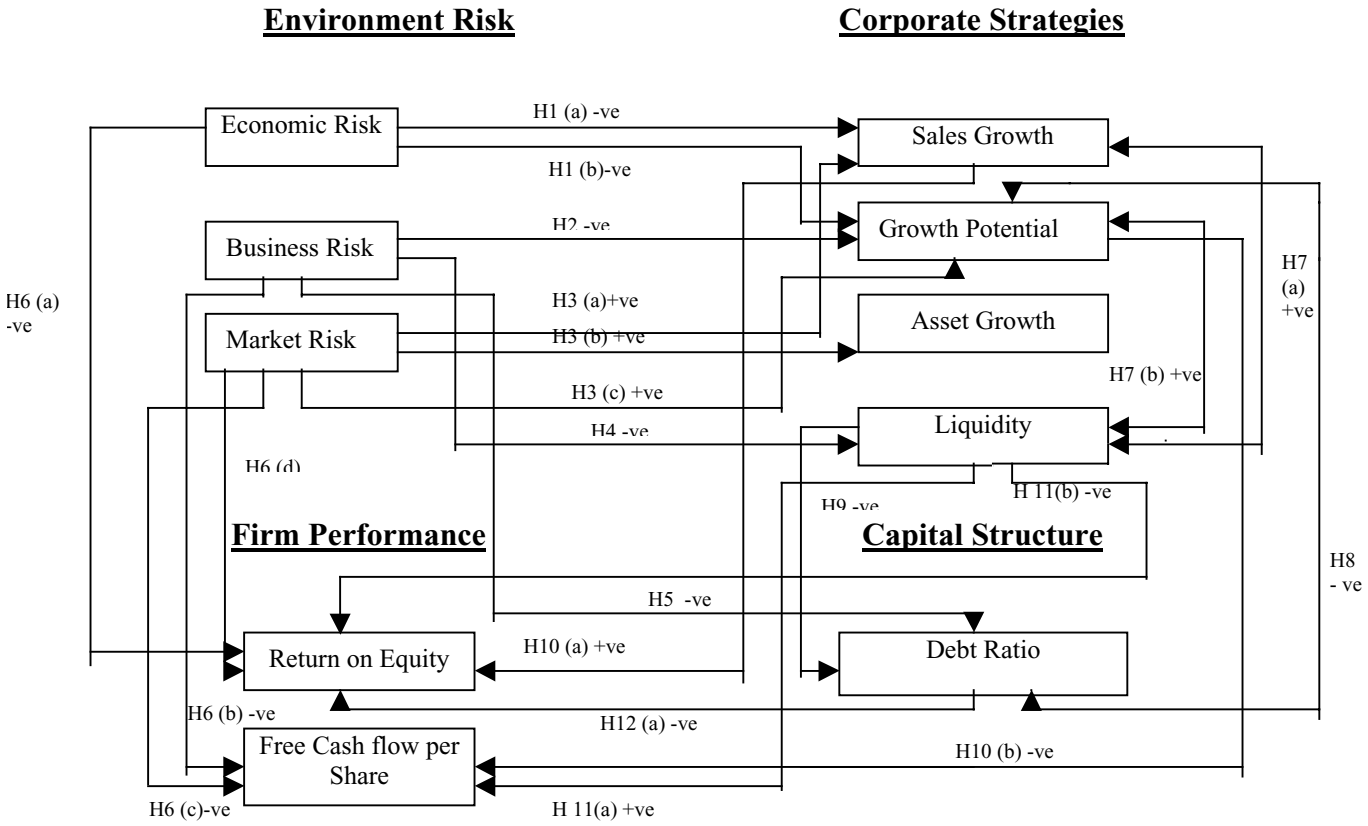

Figure 3.1 The Hypothesized Empirical Model

Control Variable Hypotheses

The control variable, i.e. firm size is used in most cases in order to control for the effects of firm size. Note that the industry and country effects will be controlled through sample selection criteria, which will insure that they do not affect the results. Control variables other than firm size will be used, which are predictor variables in the present study in some of the models that will be tested[10].

The relationship between firm size and growth is hypothesized to be positive. The logic used in this case is that bigger firms will focus more on growth strategies based on their objectives, which will also lead to higher potential for growth as compared to smaller firms. Therefore, bigger firms will have higher sales growth, more asset growth, and growth potential as compared to smaller firms.

The relationship between liquidity and firm size is hypothesized to be negative[11]. Bigger firms may have a lower liquidity position than smaller firms. On the other hand, in the case of debt ratio, it is posited that the relationship between firm size and debt will be positive. Since firms will use more debt to fund their growth[12], the ratio of debt to assets will increase as they grow. Therefore, bigger firms will have higher debt ratio as compared to smaller firms.

The relationship between firm size and free cash flow is posited to be positive since bigger firms may be able to manage their cash flow from operations as well as capital investments in a better way as compared to smaller firms. Bigger firms may achieve economies of scale in their capital investments, which may lead to lower costs associated with such investments.

On the other hand, the relationship between firm size and return on equity is posited to be negative. Bigger firms may be more oriented towards meeting the goals of bondholders than meeting the stockholder needs. Moreover, since bigger firms will typically be oriented towards growth, such firms will grow at the cost of increased costs associated with growth, resulting in lower return on equity. Also, it is evident from financial theory[13] that explains why firms use debt to grow as compared to equity, which also helps explain the negative relationship between firm size and return on equity. This was confirmed through the study by Hall and Weiss (1969), which revealed that a negative relationship exists between firm size and profitability

[10] Note that the control variables used in the equations other than firm size are used as predictor variables in some equations, while being used as control variables in others (e.g. liquidity, sales growth etc.). This is done in order to negate spurious relationships between variables. The relationship between these variables and the dependent variable is hypothesized in the present study, which is then used as a control measure in other instances.

[11] This is as per Kim et al. (1998), who posited a negative relationship between firm size and liquidity.

[12] See Ross et al. (1999).

[13] The agency theory explains the firm's managers' orientation towards financing (e.g. Ross et al. 1999).

The Empirical Models

Based on the operational measures[14] used to represent each construct, the theoretical models will be substituted by these measures to develop the empirical models. These empirical models will include the following:

Environment and Corporate Strategy

Equation 1

SALESGR = b0 - b1* ECONBETA + b2* MBETA + b3* SIZELOG + e

Equation 2

ASSETGR = b0 + b1* MBETA + b2* SIZELOG + e

Equation 3

GRPOTEN = b0 - b1* ECONBETA - b2* OPCASHBETA + b3* MBETA + b4* SIZELOG + e

Equation 4

- LIQRAT = b0 - b1 * OPCASHBETA - b2* SIZELOG + b3*SALESGR + e

Environment and Capital Structure

Equation 5

- DEBTRAT = b0 - b1* OPCASHBETA + b2* SIZELOG - b3* LIQRAT + e

Environment and Performance

Equation 6

- FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* LIQRAT + b4* SIZELOG + e

Equation 7

- RETONEQ = b0 - b1* ECONBETA + b2* MBETA - b3* SIZELOG + e

[14] See pages 70-75 for the description of operational measures.

Interaction between Corporate Strategy Types

Equation 8

(1) LIQRAT = b0 + b1* SALESGR - b2* SIZELOG + e
(2) LIQRAT = b0 + b1* GRPOTEN - b2* SIZELOG + e

Corporate Strategy and Capital Structure

Equation 9

- DEBTRAT = b0 - b1* GRPOTEN - b2* LIQRAT + b3* SIZELOG + e

Corporate Strategy and Firm Performance

Equation 10

(1) FCFPERSHARE = b0 - b1* GRPOTEN + b2* SIZELOG + e
(2) FCFPERSHARE = b0 + b1* LIQRAT + b2* SIZELOG + e

Equation 11

- RETONEQ = b0 + b1* SALESGR - b2* SIZELOG - b3* LIQRAT - b4* DEBTRAT + e

Capital Structure and Firm Performance

Equation 12

- RETONEQ = b0 - b1*DEBTRAT - b2* SIZELOG - b3* LIQRAT + e

Environment, Corporate Strategy, and Firm Performance

Equation 13 (a)

- FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* ASSETGR + b4* GRPOTEN + b5* LIQRAT + b6* SIZELOG + e

Equation 13 (b)

- RETONEQ = b0 - b1* ECONBETA + b2* MBETA + b3* SALESGR - b4* LIQRAT - b5* SIZELOG + e

Environment, Capital Structure, and Firm Performance

Equation 13(c)

- RETONEQ = b0 - b1 * ECONBETA + b2* MBETA - b3* DEBTRAT - b4* SIZELOG + e

Environment, Corporate Strategy, Capital Structure, and Firm Performance

Equation 13(d)

- FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* ASSETGR + b4* GRPOTEN + b5* LIQRAT + b6* SIZELOG + e

Equation 13(e)

- RETONEQ = b0 - b1* ECONBETA + b2* MBETA + b3* SALESGR - b4* LIQRAT - b5* DEBTRAT - b6* SIZELOG + e

Research Design

Firms' strategies that entail corporate strategy and capital structure decisions are developed at the corporate level, which will be the unit of analysis. Corporate strategy of firms deals with decisions to insure that company stakeholders are satisfied at all times, which in turn provides the impetus for managers to invest in projects and/or resources that result in long-term profit maximization and increased returns to its stockholders. The decisions at the corporate level entail resource allocation to each of the business segments.

The contextual framework will include the restaurant industry. The selection criteria to include firms as part of the sample would be based upon data availability for the time frame the analysis is conducted. In order to improve the robustness of the analysis, at least thirty-five firms will be selected that will represent the cross-section of firms within the restaurant industry of the U.S.

The criteria used for selecting restaurant firms as part of the sample are that the firms: (a) should be incorporated in the United States; (b) should have data available at least over the past 40 quarters for some data sets, and 25 quarters for others; (c) should be a public limited company that is traded on one of the three exchanges, i.e. Dow Jones, NYSE, or NASDAQ.

The present study is a cross-sectional study, which will help confirm the relationship between the constructs and variables that represent these constructs. This will help in testing and confirming the co-alignment model's ability to explain a significant amount of variance in the dependent variable(s), as well as its generalizability through cross-sectional analysis.

Data Collection and Analyses

Data will be collected cross-sectionally to test the viability of the model. Note that in the case of environment risk variables, longitudinal data will be used that will be averaged out to come up with a single measure of the variable. This single measure will be used in the cross-sectional data analysis. The longitudinal data will be used to calculate the slope function, which will represent the risk factor that the firm is exposed to. The resulting slope or beta will be a single measure for the firm.

The source of data will be COMPUSTAT, accessed via the WRDS, which will be used to obtain information on the financial statements of restaurant firms within the U.S. Thus, the data will be collected from secondary sources which would be either ratio or interval measures. Since the present study entails testing the relationship between the constructs and variables identified as part of the co-alignment model, the statistical analysis that will be carried out will test the direction and magnitude of relationship between the variables. Thus, regression analysis was considered as appropriate, which will also help explain the relationship between the variables/constructs.

It should be noted that regression analysis will be used as the statistical method for explanation purposes and not for prediction. The coefficients obtained through regression analysis will help explain the direction of relationship between the variables, and will help in the process of explaining the relationships between constructs. Furthermore, the standardized coefficients will be interpreted as different scales have been used to measure the independent variables. Note that the magnitude of the coefficients will only be interpreted to underscore the significance of the variable, and not for the purpose of explaining how the dependent variable is affected by the independent variable.

Testing for Assumptions

Assumptions for regression analysis include the test of normality and homoscedasticity. These assumptions need to be tested in order to prove that the models are reliable and valid. The reliability and validity of the model(s) increases when the assumptions are met. The test of normality will be verified through the Normal Probability Plot (NPP) obtained using the SPSS statistical software. A non-normal distribution of variables leads to violation of assumptions, which decreases the reliability of the model.

Model specification tests include tests for homoscedasticity, which indicates that the error variances of the independent variables are not correlated. In other words, the standardized predicted values are not correlated with the standardized residuals (Pedhazur, 1997). This will be tested using the standardized residual scatter plot for variables obtained through the SPSS statistical software. Test of homoscedasticity is also a test of validity, in that a model that meets this assumption indicates that the error variances of the independent variables are not correlated, which also indicates the reliability of the variables used in the model.

Another specification test that is used in regression analysis is the test of multicollinearity among variables, which is a test of reliability of measures used in the regression equation. "The lower the reliabilities of the measures or higher the correlation among the variables, the greater the distortions in the estimation of regression coefficients that result from measurement error" (Pedhazur, 1997). Note that regression models should be free of measurement errors, which leads to better estimation of coefficients and explanatory power of the model.

A high multicollinearity among two variables indicate that the there is high correlation among variables used as independent variables, which is reflected in the results obtained in the collinearity statistics, i.e. Variance Inflation Factor (VIF) and tolerance. VIF of close to 1 and tolerance of close to 1 indicate low multicollinearity and vice versa. Also, the correlation matrix is a preliminary test of multicollinearity, which results when high correlation exists among independent variables, usually above 0.80[15]. These tests will be conducted on each of the specified models.

[15] This is used as a rule of thumb in social sciences, which is used as a preliminary test to screen for multicollinearity. The best way to confirm for multicollinearity is by verifying the collinearity statistics.

Summary

This chapter provides a description of the research methodology, emphasizing on research questions that are the precursors to the present study. The research questions enable in developing the relationship between constructs and variables through hypotheses, which have been explored in detail. The hypotheses developed provide a description of the domain within which the models will be tested. The chapter also includes measures through which the constructs will be operationalized. The factors influencing the research design are described and the data collection process, which will include secondary data, is also discussed. The model development entails both theoretical models that include constructs as well as empirical models that include measures. These models will be tested and the results will be reported in the following chapter.

Chapter 4

Analyses and Findings

Introduction

The previous chapter was aimed at developing the hypotheses to test the co-alignment model, which will be tested using the sample of firms from the restaurant industry. This chapter will delve into the sample selection process, the data collection process, statistical analyses and findings in detail. The sections that follow are divided into the following: (a) sample selection criteria and data collection, (b) operationalizing the variables/measures (c) statistical analysis, and (d) results and findings.

Sample Selection Criteria and Data Collection

The sample for the study was identified based on the criteria mentioned in Chapter 3. These criteria include: (a) the firms within the sample should be incorporated in the United States; (b) each firm should have data for at least 40 quarters for some data sets (includes environment risk variables), and 25 quarters for others (includes all variables other than the environment risk variables); (c) each firm should be a public limited company that is traded on one of the three exchanges, i.e. Dow Jones, NYSE, or NASDAQ.

The firms selected for the sample included those that were based within the United States with at least eighty percent of each firm's total revenues generated within the country, which helped control for country effects regarding the firm's market as well as currency effects. This was determined from the COMPUSTAT's description of the firm's business domain.

Secondly, the firms with at least seven years of data or at the most 10 years of data were considered as part of the sample for the environment risk construct, and at least five years for the corporate strategy, capital structure and firm performance constructs. Quarterly data were used for the variables ranging from 28 data points to 40 data points for the environment risk construct. These variables include the environment risk variables, *vis-a-vis* economic risk, business risk, and market risk. Since these variables will be operationalized by calculating the beta of the slope function that determines the covariance of the firm's sales, cash flows, and market price per share with that of the market, the more the data points, the better the estimate of the beta. The cut-off point for the number of data points was twenty-eight. Firms with data points below this cut-off point were not included in the sample.

For the variables of the constructs, i.e. corporate strategy, capital structure, and firm performance, quarterly data points were gathered and averaged over the six-year period, i.e. 1995 through 2000. By calculating the average, the lead and lag effects

between the variables of the constructs were strengthened, as the mean nullifies the effects of factors that are as a result of extraneous factors or non-normal occurrences.

Based on the above criteria, data were gathered from reliable secondary sources. The Wharton Research Data Services (WRDS), developed by the University of Pennsylvania, Wharton School of Business provides an on-line interface with the COMPUSTAT database. This database enlists various information on business organizations that pertains to their operational and market data over the past several decades. Hospitality organizations featured on the COMPUSTAT database are traded on one of the three indexes, i.e. NYSE, NASDAQ, and Dow Jones. The database pertaining to COMPUSTAT Industrials was used to gather data on restaurant firms based within the U.S.

The criteria used to select the restaurants as part of the sample included the ones mentioned above. The sample included firms that ranged from small size to big size firms. Size in this case is defined as the market value of firm assets. Based on the screening criteria, 48 firms were included in the final sample[16]. Note that only those firms in the sample with their operations spread outside the U.S. were included that have at least eighty percent of the firm's sales generated within the U.S. The following section describes the operationalization of the variables. Note that the data on GDS was obtained from U.S. Bureau of Economic Analysis.

Operationalizing the Variables

The raw data obtained from COMPUSTAT (Industrials) were then treated in order to operationalize them for further analyses. This section will delve into the operationalization process for each variable step by step. The variables that represent each construct will be detailed in the following order:

Environment Risk Construct:

1. ECONBETA: This variable was operationalized by calculating the slope of the function with annualized quarterly GDP growth rate of the U.S. economy as the independent variable and the firm's annualized quarterly sales growth rate as the dependent variable. Note that the terms "annualized quarterly GDP growth rate" and "annualized quarterly firm sales growth rate" refer to the annual growth rate between two quarters; for instance, growth rate between the first quarter of 1999 and the first quarter of 2000. The beta of the slope function for the equation GDP = b0 + b1* SALES was calculated using Excel spreadsheet. The beta, i.e. b1 in the above equation that represents the covariance between the firm's sales growth rate and the GDP growth rate was used as ECONBETA for further analysis.

2. OPCASHBETA: This variable was operationalized by calculating the slope of the function with the average cash flow from operations of firms listed on S&P 500 as the

[16] See Appendix B for the list of restaurants that were included in the sample.

independent variable and the restaurant firm's cash flow from operations as the dependent variable. The number of firms that were used to calculate the average cash flow of the S&P 500 were 355, and the criterion used to screen the company was based on the availability of data pertaining to quarterly cash flow from operations for these companies. The beta of the slope function for the equation CASHFLOW = b0 + b1* AV.CASHFLOW was calculated using Excel, where CASHFLOW represents the restaurant firm's quarterly cash flow from operations, and AV.CASHFLOW represents the average of the S&P 500. The beta, i.e. b1 in the above equation that represents the covariance between the firm's cash flow from operations and the average of the S&P 500 firms' cash flow from operations was used as OPCASHBETA for further analysis.

3. MBETA: This variable was operationalized by calculating the slope of the function with the average market price per share of the S&P 500 firms as the independent variable and the restaurant firm's market price per share as the dependent variable. The data used for the market price per share was the third quarter market price per share for both the restaurant firms as well as the S&P 500 firms. The number of firms that were used to calculate the average market price of the S&P 500 firms were 385, and the criterion used to screen the company was based on the availability of market price data for these firms. The beta of the slope function for the equation MARKETPRICE= b0 + b1* AV.MARKETPRICE was calculated using Excel, where MARKETPRICE represents the restaurant firm's third quarter market price per share, and AV.MARKETPRICE represents the average market price per share of the S&P 500 calculated by using these firms' third quarter market price per share. The beta, i.e. b1 in the above equation that represents the covariance between the firm's market price and the market average was used as MBETA for further analysis.

Corporate Strategy Construct:

1. SALESGR: This variable was operationalized using the sales growth rate of the restaurant firms within the sample. The annualized quarterly sales growth rate for the period 1995 through 2000 was used and then averaged to obtain a single measure of the firm's sales growth rate or SALESGR.

2. ASSETGR: This variable was operationalized using the restaurant firm's market value of asset growth rate. The growth rate was obtained by using the annualized quarterly growth rate of the market value of assets. The market value of the firm's assets was calculated by adding the difference between the market value of equity and the book value of equity to the firm's book value of total assets (e.g. Kim et al., 1998). The growth rates obtained for the period 1995 through 2000 were then averaged to obtain a single measure of the firm's market value of asset growth rate or ASSETGR.

3. GRPOTEN: This variable was operationalized by dividing the restaurant firm's market value of total assets by their book value of total assets. As indicated earlier, the market value of the firm's assets was calculated by adding the difference between the market value of equity and the book value of equity to the firm's book value of

total assets. This was then averaged over the period 1995 through 2000 to obtain a single measure of the firm's growth potential or GRPOTEN.

4. LIQRAT: This variable was operationalized using the restaurant firm's cash and short-term investments, which was then divided by the firm's total assets (John, 1993; Kim et al., 1998). This was then averaged for the period 1995 through 2000 to obtain a single measure of the firm's liquidity position or LIQRAT.

Capital Structure Construct:

1. DEBTRAT: This ratio was calculated by adding the restaurant firm's long-term debt and the portion of debt in the current liabilities to obtain the firm's total debt, which was then divided by the firm's book value of assets (Kim et al., 1998). The debt ratio for each individual quarter between the period 1995 through 2000 was then averaged to obtain a single measure of the firm's debt ratio or DEBTRAT.

Firm Performance Construct:

1. FCFPERSHARE: The free cash flow per share was obtained by dividing the restaurant firm's free cash flow by the number of common equity outstanding. The free cash flow per share was calculated by subtracting the firm's capital expenditure for each quarter from the firm's earnings before depreciation, interest, and taxes for those quarters (Kim et al., 1998). This was then averaged between the period 1995 through 2000 to obtain a single measure of the firm's free cash flow per share or FCFPERSHARE.

2. RETONEQ: This ratio, i.e. the return on equity of restaurant firms was calculated by dividing the firm's net income by their total equity. This was then averaged across the time period 1995 through 2000 to obtain a single measure of the firm's return on equity or RETONEQ.

Control Variables:

1. SIZELOG: This variable was operationalized by averaging the restaurant firm's market value of assets[17] for the period 1995 through 2000, and then calculating the natural logarithm of it. This was used as the control variable for subsequent analyses. Note that the key variables described in this section also served as control variables in some of the tests that were conducted, explained in the section on statistical analyses, which follows.

Statistical Analyses

The equations that were developed in chapter 3 contain a single dependent variable and multiple independent variables. The measures that will be used to test them are of ratio type, and hence, regression analysis was considered as appropriate.

[17] See page 136 "ASSETGR" for details on how market value of assets was calculated.

Moreover, since the objective of the analyses is to be able to explain a significant amount of variance in the dependent variable because of the effects of the independent variable(s), regression analysis was considered as the appropriate statistical method. The data set developed is a cross-sectional one, and therefore cross-sectional regression analysis was conducted using SPSS software. The SPSS software enables the test of not only the regression equations, but also the assumptions which are discussed in the following sections.

Descriptive Statistics:

The descriptive statistics for the data set with n = 48 is summarized in table 4.1. Note that the sample size for the variable economic risk was trimmed to exclude outliers. Since the standard deviation for economic risk with sample size n = 48 was greater than 3, data points with ECONBETA greater than 4[18] were excluded. The resulting standard deviation for economic risk with n = 39 was 1.74. The standard deviation of the variables ranges from a low of 0.08 to a high of 1.74, which indicates that the data is normally distributed and therefore parametric tests are valid. Note that the normality assumption will be tested separately for each equation.

Table 4.1[19]

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ECONBETA	39	-3.00	3.78	.08	1.74
MBETA	48	-1.55	1.14	.05	.56
OPCASHBETA	48	-.07	1.31	.30	.26
SALESGR	48	-.09	3.16	.24	.51
ASSETGR	48	-.16	.58	.13	.18
GRPOTEN	48	.78	8.56	1.84	1.23
LIQRAT	48	.00	.35	.08	.08
DEBTRAT	48	.00	.83	.27	.18
FCFPERSHARE	48	-2.25	.09	-.65	.55
RETONEQ	48	-.37	.18	-.02	.10
SIZELOG	48	2.24	8.06	5.16	1.56

Note that in the above table ECONBETA represents Economic Risk, MBETA represents Market Risk, OPCASHBETA represents Business Risk, SALESGR represents Sales Growth, GRPOTEN represents Growth Potential, DEBTRAT represents debt ratio, FCFPERSHARE represents Free Cash Flow per share, RETONEQ represents Return on Equity, and SIZELOG represents Firm Size.

[18] Note that the ECONBETAs greater than 3 for the sample n = 39 were only 5, and were retained to maintain the sample size.
[19] See table 4.2 for the list of measures and corresponding variables.

Correlation Analysis:

A simple bivariate correlation of the variables in the data set is shown in table 4.3. This table provides the Pearson's correlation coefficient for the variables. Note that the highest correlation coefficient is 0.74, which indicates that multicollinearity between variables may not be present. It needs to be pointed out that social science researchers use the rule of thumb for bivariate correlation of greater than 0.80 as an indicator of multicollinearity between variables for preliminary screening purposes[20]. Significant correlation between variables is indicated by a single or double star, which indicates significance at $p = 0.05$ or $p = 0.01$ respectively. Note that these are bivariate correlation coefficients and therefore, may not be applicable for multivariate analysis per se. This should be kept in mind while interpreting the coefficients and their significance.

Table 4.2
Measures and Variables

S. No.	Measure	Variable
1.	ECONBETA	Economic Risk
2.	OPCASHBETA	Business Risk
3.	MBETA	Market Risk
4.	SALESGR	Sales Growth
5.	ASSETGR	Asset Growth
6.	GRPOTEN	Growth Potential
7.	LIQRAT	Liquidity Ratio
8.	DEBTRAT	Debt Ratio
9.	FCFPERSHARE	Free Cash Flow per Share
10.	RETONEQ	Return on Equity
11.	SIZELOG	Firm Size

[20] Note that multicollinearity statistics, i.e. Tolerance and Variance Inflation Factor are used to test for presence of multicollinearity among variables, which is discussed later in the chapter (p. 163-166).

Hypotheses Testing: Results of Regression Analysis

This section details the results obtained by testing each of the regression equations. The equation will be presented, and then the regression results obtained will be discussed subsequently.

Environment Risk and Corporate Strategy

Equation 1:

SALESGR = b0 - b1* ECONBETA + b2* MBETA + b3* SIZELOG + e

The above equation describes the proposed relationship between sales growth and the environment risk variables. Note that SIZELOG is the control variable, which controls for firm size. The results summarized in table 4.4 indicate that the overall model is not significant with the F statistic of 1.83 at p = 0.05. The standardized coefficient for ECONBETA (economic risk) of -0.15 is not significant, although the direction of relationship is negative as hypothesized. Therefore, the null hypothesis for H1(a) is accepted.

On the other hand, the results obtained for the equation with market risk as the independent variable indicate that the standardized coefficient for MBETA (market risk) of 0.35 is significant at p = 0.05. The direction of relationship is positive as hypothesized. However, since the overall model is not significant, the null hypothesis for H3(a) was not rejected. In order to verify this, a regression equation with SALESGR as the dependent variable and MBETA as the independent variable was tested. The overall model "F" statistic and the coefficient for MBETA were insignificant. Therefore, the null hypothesis for H3(a) was accepted.

Table 4.3
Correlations

No.	Measure	1	2	3	4	5	6	7	8	9	10	11
1	ECONBETA	1.00										
2	OPCASHBETA	-.11	1.00									
3	MBETA (3)	.04	.04	1.00								
4	SALESGR	-.13	-.24	.07	1.00							
5	ASSETGR	-.07	-.14	.44**	.25	1.00						
6	GRPOTEN	-.33*	-.13	.22	.74**	.22	1.00					
7	LIQRAT	.08	-.30*	-.08	.54**	-.01	.47*	1.00				
8	DEBTRAT	.10	-.08	.18	-.19	-.07	-.29*	-28	1.00			
9	FCFPERSHARE	.20	-.46*	-.29*	.13	-.18	.09	.40**	-.09	1.00		
10	RETONEQ	-.40*	.07	.15	.03	.20	.14	-.06	-.55**	-.09	1.00	
11	SIZELOG	-.14	.60**	.23	-.15	.046	.134	-.35*	-.13	-.34*	.03	1.00

Note: * indicates correlation is significant at p = 0.05 (2-tailed), ** indicates correlation is significant at p = 0.01 (2-tailed).
The first column (No.) lists the numbers allotted to the measures in the second column, which correspond to the numbers in row 1 (third column through thirteenth column).

Table 4.4
Results of Regression Analysis

Eq. No.	Equation	Model F Statistic	Model R^2	Adj.[21] R^2	Independent Variables	Standardized Beta Weights
1	SALESGR = b0 - b1* ECONBETA + b2* MBETA + b3* SIZELOG + e	1.83	0.14	0.06	ECONBETA	N.S.
					MBETA	N.S.
2	ASSETGR = b0 + b1* MBETA + b2* SIZELOG + e Revised Model: ASSETGR = b0 + b1* MBETA + e	11.15***	0.20	0.18	MBETA	.44***
3	GRPOTEN = b0 - b1* ECONBETA - b2* OPCASHBETA + b3* MBETA + b4* SIZELOG + e	6.48****	0.43	0.37	ECONBETA	-.32*
					OPCASHBETA	-.44*
					MBETA	.37***
					SIZELOG	.50**
4	LIQRAT = b0 - b1 *OPCASHBETA - b2* SIZELOG + b3* SALESGR + e Revised Model: LIQRAT = b0 - b1 * OPCASHBETA + e	4.70*	0.09	0.07	OPCASHBETA	-.30*
					SIZELOG	N.S.
					SALESGR	N.S.
5	DEBTRAT = b0 - b1 * OPCASHBETA + b2* SIZELOG - b4* LIQRAT + e	2.39	0.18	0.10	OPCASHBETA	N.S.
					SIZELOG	N.S.
					LIQRAT	-.37*
6	FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* LIQRAT + b4* SIZELOG + e Revised Model : FCFPERSHARE = b0 - b1* OPCASHBETA + b2* MBETA + b3* LIQRAT + e	7.89****	0.35	0.29	OPCASHBETA	-.36**
					MBETA	-.26*
					LIQRAT	.27*
					SIZELOG	N.S.
7	RETONEQ = b0 - b1* ECONBETA + b2* MBETA - b6* SIZELOG + e Revised Model : RETONEQ =b0 - b1* ECONBETA + e	6.90*	0.16	0.13	ECONBETA	-.40*
					MBETA	N.S.
					SIZELOG	N.S.
8	(1) LIQRAT = b0 + b1* SALESGR - b2* SIZELOG + e	12.67****	0.36	0.33	SALESGR	.50****
					SIZELOG	-.28*
	(2) LIQRAT = b0 + b1* GRPOTEN - b2* SIZELOG + e	14.65****	0.39	0.37	GRPOTEN	.53****
					SIZELOG	-.42****
9	DEBTRAT = b0 - b1* GRPOTEN - b2* LIQRAT + b3* SIZELOG + e Revised Model: DEBTRAT = b0 - b1* LIQRAT + e	3.98*	0.08	0.06	LIQRAT	-.28*
					GRPOTEN	N.S.
					SIZELOG	N.S.

Note: * indicates significance at p = 0.05; ** indicates significance at p = 0.01; *** indicates significance at p = 0.005; **** indicates significance at p = 0.001, ' indicates significance at p = 0.1, N.S. indicates "not significant," i. e p > 0.1

[21] Adj. R^2 stands for Adjusted R^2.

Table 4.4 (contd.)
Results of Regression Analysis

Eq. No.	Equation	Model F Statistic	Model R^2	Adj.[18] R^2	Independent Variables	Standardized Beta Weights
10	FCFPERSHARE = b0 - b1* GRPOTEN + b2* SIZELOG + e	3.49*	0.13	0.10	GRPOTEN	N.S.
					SIZELOG	-.36*
	(1) FCFPERSHARE = b0 + b1*LIQRAT + b2* SIZELOG + e Revised Model: FCFPERSHARE = b0 + b1* LIQRAT + e	8.96****	0.16	0.15	LIQRAT	.40***
					SIZELOG	N.S.
11	RETONEQ = b0 + b1* SALESGR - b2* SIZELOG - b3* LIQRAT - b4* DEBTRAT + e	Note: None of the variables were significant. Hence, model was rejected				
12	RETONEQ = b0 - b1*DEBTRAT + b2* SIZELOG - b3* LIQRAT + e Revised Model : RETONEQ = b0 + b1* DEBTRAT + e	20.28****	0.31	0.29	DEBTRAT	-.55****
					SIZELOG	N.S.
					LIQRAT	N.S.
13(a)	FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* ASSETGR + b4* GRPOTEN + b5* LIQRAT + b6* SIZELOG + e Revised Model: FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3*LIQRAT + e	7.89****	0.35	0.31	OPCASHBETA	-.36**
					MBETA	-.26*
					LIQRAT	.27*
					ASSETGR	N.S.
					GRPOTEN	N.S.
					SIZELOG	N.S.
13(b)	RETONEQ = b0 - b1* ECONBETA + b2* MBETA + b3* SALESGR - b4* LIQRAT - b5* SIZELOG + e Revised Model: RETONEQ = b0 - b1* ECONBETA + e	Note: Only ECONBETA was significant. Same as Eq. No. 7				
13(c)	RETONEQ = b0 - b1 * ECONBETA + b2* MBETA - b3* DEBTRAT + b4* SIZELOG + e Revised Model: RETONEQ = b0 - b1 *ECONBETA + b2*MBETA - b3*DEBTRAT + e	12.11****	0.51	0.47	ECONBETA	-.35**
					MBETA	.22’
					DEBTRAT	-.58****
					SIZELOG	N S
13(d)	FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* ASSETGR + b4* GRPOTEN + b4* LIQRAT + b5* SIZELOG + e Revised Model: FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* LIQRAT + e (Note: Model same as eq. 13a)	7.89****	0.35	0.31	OPCASHBETA	-.36**
					MBETA	-.26*
					LIQRAT	.27*
					ASSETGR	N.S.
					GRPOTEN	N.S.
					SIZELOG	N.S.
13(e)	RETONEQ = b0 - b1* ECONBETA + b2* MBETA + b3* SALESGR - b4* LIQRAT - b5* DEBTRAT - b6* SIZELOG + e Revised Model : RETONEQ = b0 - b1* ECONBETA + b2* MBETA - b3* LIQRAT - b4* DEBTRAT - b5* SIZELOG + e	9.42****	0.59	0.53	ECONBETA	-.36***
					MBETA	.31*
					LIQRAT	-.25*
					DEBTRAT	-.67****
					SIZELOG	-.28*

Note: * indicates significance at p = 0.05; ** indicates significance at p = 0.01; *** indicates significance at p = 0.005; **** indicates significance at p = 0.001, ’ indicates significance at p = 0.1, N.S. indicates "not significant," i. e p > 0.1

Equation 2

ASSETGR = b0 + b1* MBETA + b2* SIZELOG + e

The above equation describes the proposed relationship between asset growth and the environment risk variable, i.e. market risk. Results obtained as shown in table 4.4 indicate that the F statistic for the model of 11.15 is significant at p = 0.005. The r^2 of the model is significant, which indicates that market risk explains 20 percent of the variance in asset growth of the firms. Moreover, the regression coefficient b1 for market risk is significant at p = 0.005 with a standardized coefficient of 0.44. Based on this result, the null hypothesis for H3(b) is rejected. Note that since the control variable, i.e. size (SIZELOG) was not significant, this variable was dropped from the model. This further indicates that the firm's size does not affect the relationship between market risk and asset growth.

Equation 3

GRPOTEN = b0 - b1* ECONBETA - b2* OPCASHBETA + b3* MBETA + b4* SIZELOG + e

The above equation represents the proposed relationship between growth potential of the firm and the environment risk, i.e. economic risk, business risk and market risk. The results obtained indicate that the overall model F statistic is significant (F= 6.48) at p = 0.001. The r^2 for the model suggests that 43 percent of the variance in growth potential of the firm is explained by environment risk, i.e. economic risk, business risk, and market risk. The standardized coefficients for all three variables of -0.32 at p = 0.05, -0.44 at p = 0.05, and 0.37 respectively at p = 0.005 are all significant. The hypothesized relationships between the three independent variables and the dependent variables are significant in terms of the direction of relationships. Therefore, the null hypotheses, for H1(b), H2 and H3(c) are rejected.

Note that the control variable, i.e. size of the firm is also significant at p = 0.005, indicating that there is a significant difference between big firms and small firms in terms of the relationship between economic risk, business risk, market risk, and the growth potential of the firm. The direction of relation is positive, indicating that the bigger the size of the firm, the greater the firm's potential for growth.

Equation 4

LIQRAT = b0 - b1* OPCASHBETA - b2* SIZELOG + b3* SALESGR + e

The above equation depicts the relationship between the liquidity strategy of the firm and the independent variable business risk. Firm size and sales growth are the control variables in the above equation. Results indicate that the model is statistically significant with the F statistic of 4.70 at p = 0.05. The r^2 for the model indicates that business risk helps explain 9 percent of the firm's liquidity position. This is confirmed by

the standardized coefficient of -0.30 at p = 0.05. The negative sign on the coefficient indicates the relationship between business risk and liquidity, that is, higher the business risk, lower the liquidity. This supports hypothesis H4. Therefore, the null hypothesis for H4 is rejected.

Note that sales growth and firm size are not significant, further indicating that the relationship between business risk and liquidity is not dependent on the sales growth of the firm and its size.

Environment Risk and Capital Structure

Equation 5

DEBTRAT = b0 - b1* OPCASHBETA + b2* SIZELOG - b3* LIQRAT + e

The above equation depicts the relationship between the firm's debt ratio and the environment risk variable, i.e. business risk. The size of the firm and its liquidity are control variables. The results indicate that the overall model is not significant with the F statistic of 2.39 with p > 0.05. The coefficient for the business risk variable is not significant at p = 0.05. Therefore, the null hypothesis for H5 is accepted.

Environment Risk and Firm Performance

Equation 6

FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* LIQRAT + b4* SIZELOG + e

The above equation depicts the relationship between firm performance (free cash flow per share) and environment risk variables, i.e. business risk and market risk. Size of the firm and firm liquidity are control variables. Results indicate that the overall model is significant with the F statistic of 7.89 at p = 0.001. The r^2 for the model reveals that 35 percent of the variance in free cash flow per share of the firm is explained by the independent variables, i.e. business risk and market risk. The sign on the coefficients of these variables indicate that the relationship between business risk and free cash flow per share as well as market risk and free cash flow per share is negative. These coefficients of -0.36 for business risk and -0.26 for market risk were significant at p = 0.01 and p = 0.05 respectively.

The control variable in the above equation, i.e. liquidity ratio is significant with the coefficient of 0.27 at p = 0.05. However, the other control variable, i.e. firm size is not significant. This indicates that firms with higher free cash flow will have higher liquidity and these firms may be exposed to lesser business and market risk as compared to the average firm. On the other hand, firms low on liquidity will have low free cash flow per share with perhaps higher exposure to business and market risk. Therefore, the null hypotheses for H6(b) and H6(c) are rejected.

Equation 7

RETONEQ = b0 - b1* ECONBETA + b2* MBETA - b3*SIZELOG + e

The above equation depicts the relationship between return on equity and the environment risk variables, i.e. economic risk and market risk. Firm size was used as the control variable in the above model. The overall F ratio for the model with a statistic of 6.90 is significant at p = 0.05. The r^2 for the model indicates that 16 percent of the variance in return on equity is explained by the environment risk variables. The relationship between economic risk and return on equity is confirmed as the coefficient reveals a negative beta of -0.40, which was significant at p = 0.01. This further indicates that the higher the economic risk, the lower will be the return on equity. The relationship between market risk and return on equity was not significant. Therefore, the null hypothesis for H6(a) is rejected and the null hypothesis for H6(d) is accepted.

Note that the control variable firm size is not significant, indicating that the risk exposure of the firm and its impact on return on equity does not depend on firm size.

Interaction between Dimensions of Corporate Strategy

Equation 8

(1) LIQRAT = b0 + b1* SALESGR - b2* SIZELOG + e

Equation 8 (1) identifies the relationship between liquidity of the firm and its sales growth strategies. The results indicate that the overall model is significant with the F statistic of 12.67 at p = 0.001. The r^2 indicates that 36 percent of the variance in liquidity is explained by sales growth. The standardized coefficient of 0.50 is significant at p = 0.001, which indicates that there is a positive relationship between sales growth and liquidity. The size of the firms was the control variable. The relationship between size of the firm and its liquidity position is negative with a coefficient of -0.28, which is significant at p = 0.05. Bigger firm size leads to lower liquidity, and furthermore, the rate of sales growth increases the liquidity position for smaller firms than for bigger firms.

(2) LIQRAT = b0 + b1* GRPOTEN - b2* SIZELOG + e

The above model depicts the relationship between the growth potential of the firm and its liquidity. Results indicate that the overall model is significant with the F statistic of 14.65 at p = 0.001. Furthermore, the r^2 of the model indicates that 39 percent of the variance in liquidity is explained by the growth potential of the firm. The standardized coefficient of 0.53 is significant at p = 0.001. This supports the hypothesis that there will be a positive relationship between growth potential and liquidity. Size of the firm is the control variable, which is significant with the standardized coefficient of -0.42. Note that the direction of relationship is negative, which indicates that the bigger the size of the

firm, the lower is its liquidity position, with the growth potential of the firm decreasing with increasing size. Therefore, the null hypotheses for 7(a) and 7(b) are rejected.

Corporate Strategy and Capital Structure

Equation 9

DEBTRAT = b0 - b1* GRPOTEN - b2* LIQRAT + b3* SIZELOG + e

The above equation identifies the relationship between debt ratio and corporate strategy, i.e. growth potential and liquidity. Results indicate that the overall model with the F statistic of 3.98 is significant at p = 0.05. The r^2 for the model indicates that 8 percent of the variance in the debt ratio of the firm is explained by corporate strategies. The coefficient for growth potential is not significant. However, liquidity with a coefficient of -0.28 is significant at p = 0.05. The direction of relation between debt ratio and liquidity is negative indicating that the higher the level of liquidity, the lower will be the firm's debt ratio. Size as a control variable is not significant at p = 0.05. Therefore, the null hypothesis for H8 is accepted but the null hypothesis for H9 is rejected.

Corporate Strategy and Firm Performance

Equation 10

(1) FCFPERSHARE = b0 - b1* GRPOTEN + b2* SIZELOG + e

The above model depicts the relationship between free cash flow per share and corporate strategy, i.e. growth potential. Results indicate that the overall model is significant with the F statistic of 3.49 at p = 0.05. However, the coefficient for growth potential is not significant. Therefore, the null hypothesis for H10(b) is accepted.

(2) FCFPERSHARE = b0 + b1* LIQRAT + b2* SIZELOG + e

The above model depicts the relationship between free cash flow per share and liquidity strategy. Results indicate that the overall model is significant with the F statistic of 8.96 at p = 0.001. The r^2 for the model indicates that 16 percent of the variance in free cash flow is explained by the liquidity strategy of the firm. The standardized coefficient of 0.40 is significant at p = 0.05. The direction of relationship between liquidity and free cash flow is positive indicating that the higher the liquidity, the higher is the free cash flow of the firm. This supports hypothesis H11(a), and therefore the null hypothesis for H11(a) is rejected.

Equation 11

RETONEQ= b0 + b1* SALESGR - b2* SIZELOG - b3* LIQRAT - b4*DEBTRAT + e

The above model depicts the relationship between return on equity and the sales growth strategy of the firm while controlling for size of the firm and its liquidity position. Results indicate that the overall model is significant with the F statistic of 6.54 at p = 0.001. The standardized coefficients suggest that sales growth and firm liquidity are not significantly related to return on equity. Therefore, the null hypotheses for H10(b) and 11(b) are accepted.

Capital Structure and Firm Performance

Equation 12

RETONEQ = b0 - b1* DEBTRAT + b2* SIZELOG - b3* LIQRAT + e

The above equation depicts the relationship between return on equity and the firm's debt ratio. The results indicate that the overall model is significant with the F statistic of 20.28 at p = 0.001. The r^2 for the model indicates that 31 percent of the variance in return on equity was explained by debt ratio. The control variables were not significant, and therefore, were dropped and the model was re-tested without the control variables. The revised model was accepted with the standardized coefficient of -0.55 for the debt ratio. This indicates that as the debt ratio of the firm increases, the return on equity decreases. As a result, the null hypothesis for H12 is rejected.

Hypotheses Tests of the Co-alignment Model

The final hypothesis H13 was tested running several models. The objective was to test if the co-alignment principle holds good, which would indicate that the model with the three constructs i.e. environment risk, corporate strategy, capital structure will help explain a greater variance in firm performance rather than models that do not include variables of all the three constructs in them simultaneously. The equations are presented and discussed below:

Environment, Corporate Strategy, and Performance

Equation 13 (a)

FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* ASSETGR + b4* GRPOTEN + b5* LIQRAT + b6* SIZELOG + e

The above model tests the relationship between the variables tested earlier in separate equations. Results indicate that the model with F statistic is significant with a value of 7.89 at p = 0.001. The r^2 for the model indicates that the independent variables in the above equation help explain 35 percent of the variance in the free cash flow per share of the firm. Note that the variables ASSETGR, GRPOTEN, and SIZELOG are not significant. Therefore, the final model that helps explain the effect of environment risk and corporate strategy on free cash flow per share includes business risk, market risk, and liquidity. The coefficients, i.e. -0.36, -0.26, and 0.27 for these variables are significant at

p = 0.01, and p = 0.05 respectively, and the direction of relationship between the dependent variable and the independent variables is in line with that of the model outlined above.

Equation 13 (b)

RETONEQ = b0 - b1* ECONBETA + b2* MBETA + b3* SALESGR - b4* LIQRAT - b5* SIZELOG + e

The test for the above model indicates that the overall F statistic for the model is significant of 6.90 at p = 0.05, with an r^2 of 16 percent. However, only economic risk is significant, with a coefficient of -0.40 was significant at p = 0.05, whereas the other variables in the model are not significant, leading to the rejection of this model. Note that the model with economic risk as the independent variable and return on equity as the dependent variable is the same as Eq. No. 7

Environment, Capital Structure, and Performance

Equation 13(c)

RETONEQ = b0 - b1 * ECONBETA + b2* MBETA - b3* DEBTRAT + b4* SIZELOG + e

The results for the above model indicate that the overall model is significant with the F statistic of 12.11 at p = 0.001. The r^2 for the model indicates that 51 percent of the variance in return on equity is explained by the independent variables, i.e. economic risk, market risk, and debt ratio. The coefficients for ECONBETA and DEBTRAT of -0.35 and -0.58 are significant at p = 0.01 and p = 0.001 respectively. On the other hand the coefficient of 0.22 for MBETA was significant at p = 0.1.

Environment, Corporate Strategy, Capital Structure, and Performance

Equation 13(d)

FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* ASSETGR + b4* GRPOTEN + b5* LIQRAT + b6* SIZELOG + e

The results obtained for the above model indicate that the overall F statistic is significant with a value of 7.89 at p = 0.001. The r^2 for the model indicates that 35 percent of the variance in free cash flow per share is explained by the independent variables, i.e. business risk, market risk, and liquidity, which had significant coefficients of -0.36, -0.26, 0.27 at p = 0.01, 0.05, 0.05 respectively. The growth strategies of the firm, i.e. asset growth and growth potential are not significant, which further indicates that they do not explain a significant amount of variance in free cash flow per share. These variables were dropped from the final model, which comprised of business risk, market risk, and firm liquidity. Note that the final model is the same as model 13(a).

This model is the best model that helps explain the relationship between the constructs and firm performance, *vis-a-vis* free cash flow per share of the firm.

Equation 13(e)

RETONEQ = b0 - b1* ECONBETA + b2* MBETA + b3* SALESGR - b4* LIQRAT - b5* DEBTRAT - b6* SIZELOG + e

The tests for the above model indicate that the overall F statistic of 9.42 is significant at p = 0.001. The r^2 of the model indicates that 59 percent of the variance in the firm's return on equity is explained by the independent variables. Except for firm sales growth, the standardized coefficients of all variables are significant while at the same time confirming the direction of relationship given in the above model. These coefficients were -0.36 for economic risk (p = 0.001), 0.31 for market risk (p = 0.05), -0.25 for liquidity (p = 0.05), -0.67 for debt ratio (p = 0.001), and -0.28 for firm size (p = 0.05). This indicates that the co-alignment relationship between the variables of the environment, strategy, and structure constructs helps explain firm performance. Note that the relationship between the independent and dependent constructs are the same as compared to the results obtained while testing the relationship between these constructs individually. Also note that as the firm size increases above the average firm, the impact on firm performance, *vis-a-vis* shareholders' return is negative, which indicates that firm performance decreases. This model is by far the best model, which supports the co-alignment between the constructs. Therefore, the null hypothesis for H13 is rejected.

Note that adjusted r^2 for each model is reported in table 4.4. The difference between r^2 and adjusted r^2 for the models with significant "F" statistic ranges between 1 percent and 6 percent. Since the difference between r^2 and adjusted r^2 is not large, this is indicative of the robustness of the results, given the effects of the sample size on the results obtained.

Testing for Assumptions: Multicollinearlity

Each model was tested for multicollinearity, which exists when there is high correlation among the variables used in the analysis. As indicated earlier, the correlation among variables used in this study did not exceed 0.75. Typically, social science researchers use a rule of thumb to indicate the presence of multicollinearity, which is assumed when the correlation coefficient exceeds 0.80. Note that this is only a preliminary test, which needs to be confirmed using multicollinearity test statistics.

Multicollinearity can be tested by checking the collinearity diagnostics, which are detailed in table 4.5. This table details the tolerance and Variance Inflation Factor (VIF) for all the models analyzed. Note that there exists an inverse relationship between multicollinearity and tolerance. The higher the tolerance, the lower is the multicollinearity and vice versa. Multicollinearity statistics for both, VIF and tolerance that are close to 1 are considered as good indicators of low multicollinearity. The table indicates that all multicollinearity figures range between 1.00 and 1.72. Tolerance

statistics range from 0.58 and 1.00. In fact, only one independent variable tested has a tolerance of below 0.75 out of the 34 independent variables listed in table 4.5. This tolerance level of the independent variable represents equation 3. Yet, this level of tolerance is not considered to be low. Tolerance level closer to 0 indicates high multicollinearity.

Table 4.5
Results of Assumption Tests

Eq. No.	Equation[22]	Independent Variables	Tolerance	VIF
2	ASSETGR = b0 + b1* MBETA + e	MBETA	.95	1.05
3	GRPOTEN = b0 - b1* ECONBETA - b2* OPCASHBETA + b3* MBETA + b4* SIZELOG + e	ECONBETA	.97	1.02
		OPCASHBETA	.59	1.68
		MBETA	.94	1.06
		SIZELOG	.58	1.72
4	LIQRAT = b0 - b1* OPCASHBETA + e	OPCASHBETA	1.00	1.00
6	FCFPERSHARE = b0 - b1* OPCASHBETA + b2* MBETA + b3* LIQRAT + e	OPCASHBETA	.99	1.00
		MBETA	.91	1.10
		LIQRAT	.90	1.10
7	RETONEQ = b0 - b1* ECONBETA + e	ECONBETA	1.00	1.00
8	(1) LIQRAT = b0 + b1* SALESGR - b2* SIZELOG + e	SALESGR	.98	1.02
		SIZELOG	.98	1.02
	(2) LIQRAT = b0 + b1* GRPOTEN - b2* SIZELOG + e	GRPOTEN	.98	1.02
		SIZELOG	.98	1.02
9	DEBTRAT = b0 - b1* LIQRAT + e	LIQRAT	.88	1.13
		SIZELOG	.88	1.13
10	(2) FCFPERSHARE = b0 + b1*LIQRAT + e	LIQRAT	1.00	1.00
12	RETONEQ = b0 + b1*DEBTRAT + e	DEBTRAT	1.00	1.00
13(a)	FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3*LIQRAT + e	OPCASHBETA	.91	1.10
		MBETA	.99	1.00
		LIQRAT	.90	1.10
13(b)	RETONEQ = b0 - b1* ECONBETA + e (Note: Same as Eq. No. 7)	ECONBETA	.99	1.00
13(c)	RETONEQ =b0 - b1 *ECONBETA + b2*MBETA - b3*DEBTRAT + e	ECONBETA	.99	1.00
		MBETA	.98	1.02
		DEBTRAT	.97	1.02
13(d)	FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3* LIQRAT + e (Note: Model same as Eq. 13a)	OPCASHBETA	.91	1.10
		MBETA	.99	1.00
		LIQRAT	.90	1.10
13(e)	RETONEQ = b0 - b1* ECONBETA + b2* MBETA - b3* LIQRAT - b4* DEBTRAT - b5* SIZELOG + e	ECONBETA	.97	1.03
		MBETA	.89	1.12
		LIQTAR	.80	1.25
		DEBTRAT	.89	1.12
		SIZELOG	.76	1.30

[22] Note: Tests of multicollinearity for equations 1, 5, 10(1), and 11 are not included as the models were rejected.

Testing for Assumptions: Normality and Homoscedasticity

Normality and homoscedasticity assumptions were tested using normal probability plot and scatter plot. These plots are included in appendix-1. Normality assumption indicates that the distribution of all independent variables in the model is normal. The normal probability plot with the multivariate distribution of the independent variable that falls on the diagonal[23] is considered to be perfectly normal. In social science research, obtaining perfect normality of independent variables is quite difficult to achieve, as it is difficult to control the extraneous factors that affect the variables. These are observed real life data and therefore, a normal probability plot with the multivariate distribution closely overlapping the diagonal is considered to be a good fit.

Keeping the above in mind, the results obtained for the normality test indicates that almost all models met the assumption of normality except for equations 4, 7, 8(1) and 8(2). Although the multivariate distributions of the independent variables in the above models overlapped the diagonal, these distributions seem to be more wavering as compared to others. Therefore, some caution should be exercised while interpreting the results of these models.

The homoscedasticity assumption indicates that the error variances of the independent variables are not correlated. In other words, the standardized predicted values are not correlated with the standardized residuals (Pedhazur, 1997). This is indicated in the scatter plot in Appendix A. Note that almost all plots of the equations have a random distribution of these variables around 0, which is the mean. Only plots for equations 8(1), 8(2), and 12 have some correlation among the variables reflected in the pattern of distribution. Yet, the patterns within these plots do not reflect pronounced correlation. Although this might be the case, some caution should be exercised while interpreting the results of these models. The random distribution indicates homoscedasticity, which was met in the case of most models.

The Proposed Empirical Model

The hypothesized model after the tests resulted in the model as shown in figure 4.1. Note that hypotheses with a star (*) against them indicates relationships between variables that are significant. Most of the relationships between variables were tested to be significant. Relationships, both that were significant as well as not significant throw more light on the theory and provide us more insight into the underpinnings of strategic management and financial management in restaurant firms. This will be discussed in more detail in chapter 5 titled "Discussion and Conclusions."

[23] See Appendix A for "Normal P-P" plots.

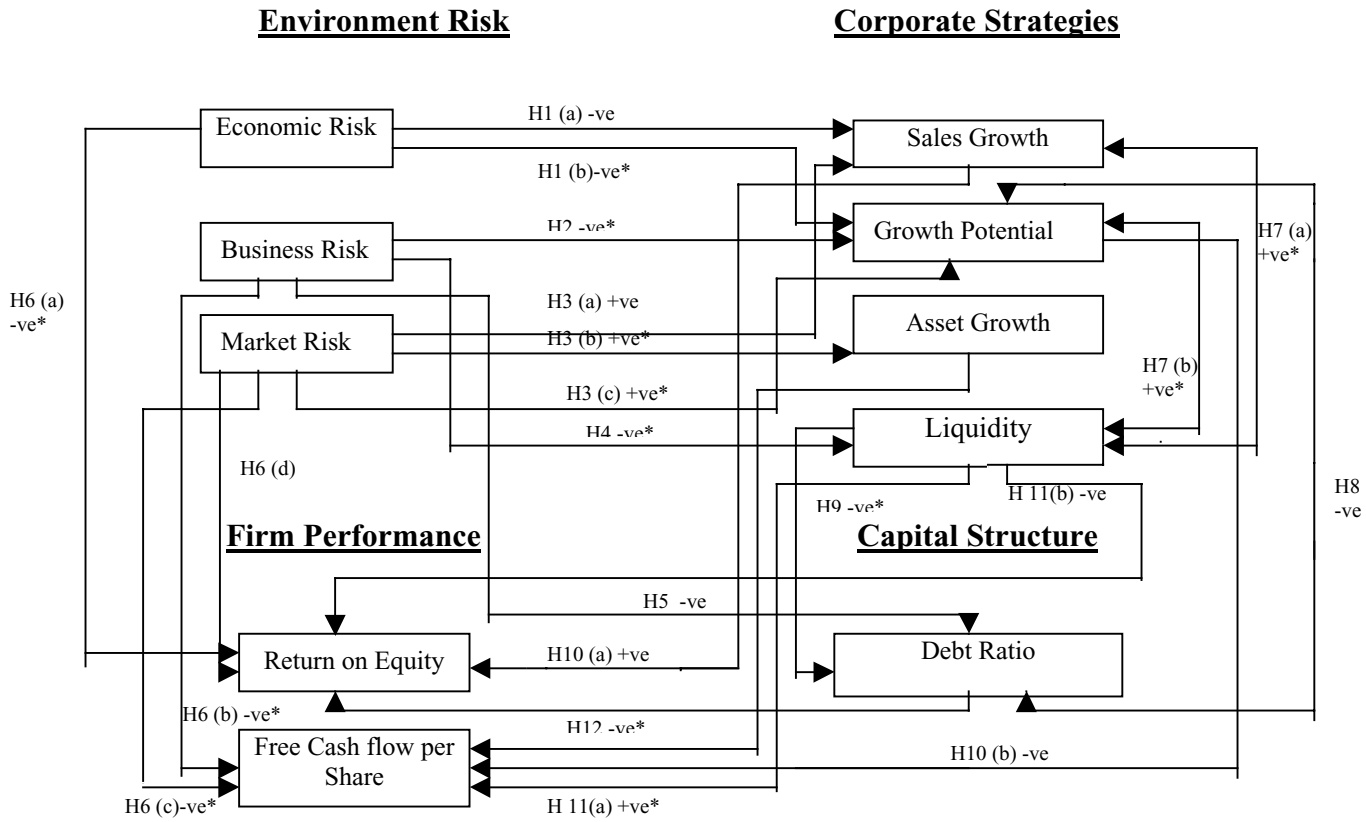

Figure 4.1 The Proposed Empirical Model

Summary

This chapter includes the process through which the variables identified in Chapter 3 were operationalized into measures, which were used as part of the regression analysis. The cross-sectional regression analysis was conducted on the sample of 48 restaurant firms. The descriptive statistics indicate that the data was normally distributed. Each equation specified in Chapter 3 was tested and the results lead to the acceptance or rejection of the hypotheses.

The assumptions for normality and homoscedasticity were tested by plotting "Normal Probability Plots" and "Scatter Plots" of standardized residuals, which indicated that most models met the assumptions. Multicollinearity among independent variables for the models was also tested using statistics of tolerance and VIF. The findings of the regression analysis reveal that most key hypotheses were tested to hold good, which along with the ones that were found not to be the case have thrown more light on the co-alignment underpinnings of the model. These underpinnings will be discussed in detail in the following chapter

Chapter 5

Discussion and Conclusions

Introduction

This chapter delves into the implications of the results that were reported in chapter 4. The relationships between the variables and constructs are discussed in detail to underscore the importance of these variables and constructs, *vis-a-vis* strategic management and financial management of firms using the co-alignment model within the restaurant industry. Further, the development of the co-alignment model in the context of future research efforts will be discussed followed by the importance of aligning strategic management and corporate finance research. Finally, the limitations and their implication on the present study will also be discussed.

Discussion

Hypotheses tests reveal that the relationship between the firm's environment and its strategy is significantly related. Results indicate that the growth strategies of restaurant firms are dependent upon the environment risk that these firms face. For instance, the findings of this study reveal that the growth potential of firms decreases with increase in economic risk and business risk, whereas it increases with an increase in market risk. This relationship signifies the role of the environment in defining the corporate strategy of firms, which is confirmed on verifying the relationship between market risk and asset growth. The negative relationship between market risk and asset growth indicates that as market risk increases, asset growth of firms decreases.

The relationship between the environment risk and corporate strategies reported in this study are in line with the findings of researchers. The negative relationship between economic risk and growth potential is in line with Oviatt & Bauerschmidt (1991), which was also seen in the case of the relationship between business risk and growth potential (Shepherd, 1972). The direction of relationship between market risk and sales growth, market risk and asset growth, and market risk and growth potential is as per the implicit as well as explicit recommendations of Copeland & Weston, (1983), and Oviatt & Bauerschmidt (1991).

The strategy of firms should address the relationship between the environment and its impact on the firm. The direction of relationship between the environment and the corporate strategies help address the strategic orientation of firms in the wake of environmental uncertainties, and more importantly, resource allocation decisions. Firm's managers should bear in mind the risk exposure of firms and how this would influence strategy formulation and implementation.

On the other hand, the relationship between environment risk (business risk) and liquidity was tested to be negative, which is in line with the findings of Veliyath (1996).

This further indicates the strategic posture of firms, *vis-a-vis* liquidity, in the presence of environment risk. Firms typically have a lower liquidity position when their business risk exposure increases. This further indicates that an alignment exists between environment risk and corporate strategies.

The alignment between the environment risk and corporate strategies of restaurant firms confirms the notion that firms typically try to decrease their risk exposure through the choice of appropriate strategies. On the other hand, firms may try to pursue aggressive growth when their risk exposure to environmental uncertainties is low. This provides the answer to the first research question: does environment risk defined by the variables and dimensions used in prior finance and strategy research, i.e. economic risk, business risk, and market risk explain the corporate strategies of firms, *vis-a-vis* growth and liquidity strategies?

Emphasis should be given to the point that no significant relationship between the firm's size and growth strategies exists. This indicates that both small and big firms within the restaurant industry employ strategic measures to address environment risk. In other words, there is no difference between big and small restaurant firms in terms of their strategies to address environment risk.

The alignment between environment risk and capital structure was tested in the present study, which reveals that no significant relationship between the two constructs exists. Since the results obtained by testing a direct relationship between the firm's environment and its capital structure were confirmed to be insignificant, this further supports the co-alignment principle that environment risk affects corporate strategies, which in turn affects the firm's capital structure. Hence, a direct relationship between environment risk and capital structure may not exist.

On the other hand, tests pertaining to the direct relationship between the firm's environment and its performance reveal that a significant relationship exists while controlling for firm liquidity, which is as per the findings of Fewings (1979). In other words, at a given level of firm liquidity, there exists a significant relationship between a restaurant firm's environment risk (business risk and market risk) and its performance measured in terms of free cash flow per share. Free cash flow decreases with increased business and market risk of the firm. Further, this relationship is true for both big firms and small firms as firm size was tested to be insignificant in the relationship between firm environment and firm performance.

The relationship between the firm's environment risk (economic risk) and its performance (return on equity) was tested to be negative, which is in line with the findings of Fewings (1979). Higher economic risk leads to lower return on equity. Since firm size was insignificant, it can be stated that no significant difference exists between big and small firms, *vis-a-vis* the relationship between economic risk and return on equity.

Note that the firm's environment directly affects its performance. Although this might be the case, further tests using other constructs of the co-alignment model need to be conducted in order to confirm that firm performance can be better explained by the three dependent constructs, i.e. environment risk, corporate strategies, capital structure taken together. Nonetheless, it should be pointed out that there seems to be a direct relationship between the firm's environment and its performance.

The relationship between corporate strategy (liquidity) and capital structure of firms was tested to be significant. The relationship between the firm's liquidity position and its debt structure was negative, indicating that higher debt positions lead to lower firm liquidity. This is as per the findings of Baskin (1987). Further, this relationship is true for small as well as big firms.

On the other hand, growth strategies were not significantly related to the debt structure of firms indicating that firm's managers do not consider their debt position as a factor that influences growth strategies. The direction of the relationship between the asset growth strategy and debt ratio was positive, indicating that the higher the asset growth, the higher is the debt position. However, since the coefficient is insignificant, this observation is inconclusive. The same applies to growth potential and debt ratio; the higher the growth potential of firms, the lower is their debt ratio, which is again inconclusive as the coefficient is insignificant. The relationships between asset growth and debt ratio, and growth potential and debt ratio need to be tested in future research efforts.

The relationship between firm liquidity and debt structure provides the answer to the second research question: do corporate strategies significantly impact the capital structure of the firm, in that is the choice of capital structure of the firm dependent on corporate strategies? Since higher restaurant firm liquidity leads to a lower debt ratio, firms should base their strategies on this key relationship. The relationship between growth strategies and capital structure is inconclusive, which needs to be tested to throw light on how firm's managers decide to fund their growth opportunities within the restaurant industry.

The relationship between capital structure and firm performance was tested using the firm's debt ratio and return on equity as the measures. Results indicate that the relationship was significant, confirming that a higher debt ratio leads to a lower return on equity. This is as per the findings of Arditti (1967), Hall & Weiss (1967), and Gale (1972). Note that the firm's liquidity position was used as a control variable, which suggests that at a given level of firm liquidity, the relationship between debt ratio and return on equity of firms is negative. Since size as a control variable was not significant, this relationship is true for big as well as small firms.

The strategic implication of the relationship between a firm's debt and return on equity is that managers should use those capital resources that lead to the maximization of the firm's return on investment. This further implies that the mix between debt and equity capital should be sought that leads to the maximization of the firm's returns. Note

that this further supports the alignment between the constructs, i.e. capital structure and firm performance, as detailed in the co-alignment principle.

The results obtained for the tests that involved equations 1 through 11 help in confirming the dependencies between constructs and variables used within the co-alignment model. This forms the basis on which tests for equations 13(a) through 13(e) can be carried out, which are discussed below.

The co-alignment model was tested using variables of the firm performance construct as dependent variables and variables of the environment risk, corporate strategies, and capital structure constructs as independent variables. Incremental models were tested to confirm that the full model with measures representing all the three independent constructs is the best model that explains the most variance in firm performance.

Results indicate that the full model explains 59 percent of the variance of the firm's return on equity. This clearly is the best model, as compared to other incremental models that explain 16 percent (environment risk, corporate strategy, and firm performance) and 51 percent (environment risk, capital structure, and firm performance) of the variance in firm performance. The direction of relationship between return on equity and the independent variables pertaining to the constructs, i.e. environment risk, corporate strategies, and capital structure were tested to be the same as seen in models tested earlier.

Note that size as a control variable is significant, which indicates that smaller firms report higher return on equity than bigger firms when economic risk is lower and market risk is higher than the average firm, given that the liquidity and the debt ratio of the firm is lower than the average firm. This is important for firm managers while formulating strategies. Firm size should be considered as an important variable in the strategy formulation process.

On the other hand, the relationship between free cash flow per share and variables of the independent constructs were limited to the environment risk and corporate strategy constructs. This model explains 35 percent of the variance in free cash flow of the firm, which further supports the co-alignment principle. Since no direct relationship between free cash flow per share and debt structure is hypothesized in this study, this construct does not feature in the co-alignment process with free cash flow per share as the dependent variable. Note that firm size was not significant, which indicates that both big and small firms behave in a similar manner in terms of the relationship between free cash flow per share and the independent variables, i.e. environment risk and corporate strategies.

Therefore, the key finding of this study is that the co-alignment principle holds good in explaining value addition to the firm. This provides the answer to the third research question, i.e. is firm performance better explained by the alignment between the environment risk, strategy and capital structure constructs?

The growth strategy construct was operationalized using three measures, i.e. sales growth, asset growth, and growth potential. Sales growth was used as an independent variable representing the corporate strategy construct in the model with return on equity as the dependent variable. The coefficient was tested to be insignificant, indicating that sales growth strategy does not necessarily explain a significant amount of variance in return on equity. On the other hand, asset growth and growth potential variables were used in the model with free cash flow as the dependent variable. Results indicate that both these variables do not explain a significant amount of variance in the dependent variable, i.e. free cash flow per share.

Moreover, the models tested to confirm the co-alignment between environment risk, corporate strategy, capital structure, and firm performance further support the above finding. The corporate strategy construct entails growth strategy variables, which were not found to be significantly related to firm performance, i.e. return on equity as well as free cash flow per share.

The above confirms that growth strategies do not help explain a significant amount of variance in firm performance. Growth is essential for firms, but are growth strategies value adding strategies which result in improved firm performance? This was the research question that was posed at the beginning of this study. The answer to the question is that growth strategies may not be value-adding strategies, as tested and confirmed in this study. Managers of restaurant may have to reconsider the firm's strategic orientation towards growth strategies. These strategies neither add to owners' return nor improve bondholders' measure of firm performance.

The interaction between the dimensions of corporate strategy was also tested in the present study. The relationship between liquidity and sales growth is positive, which is the case for firms that are smaller in size than for firms that are bigger. Note that this has a major effect on what levels of sales growth and liquidity strategies firms should pursue in order to increase the firm's return. Since sales growth strategy does not significantly affect firm performance, liquidity position becomes the most important factor that firm's managers should consider before other strategies such as sales growth, asset growth, and growth potential.

The relationship between growth potential and liquidity is positive, which indicates that as the firm's growth potential increases, liquidity also increases, which is true for bigger firms rather than for smaller firms. Note that this is as per the findings of Kim et al. (1998). This impacts strategy formulation as firm's managers who are more oriented towards future firm growth will be more concerned about liquidity. Since liquidity is significantly related to growth potential as well as sales growth strategies, it becomes the single most important corporate strategy in the present study that influences not only firm performance variables such as return on equity and free cash flow per share, but also other dimensions of corporate strategy such as sales growth and growth potential.

Implications on Firm Management: Conceptual Issues

The present study also provides insight to practitioners in terms of the emphasis they need to lay on issues pertaining to management of the firm. The co-alignment between the environment risk, corporate strategy, capital structure, and firm performance constructs provide practitioners the base on which they could develop their decision-making criteria, *vis-a-vis* strategy formulation and resource allocation decisions.

The environment risk construct throws light on issues pertaining to the risk exposure of firms to the environment domain, i.e. the remote and task environment. The present study provides insight to managers in terms of how the environmental factors affect sales growth, asset growth and growth potential of firms; and how they affect firm liquidity. The direction of relationship between the environment and corporate strategy constructs could be considered in the strategy formulation decisions. Moreover, since firm size has an effect on some of these decisions, managers need to take into consideration how firm size will affect the strategy they formulate and implement.

The resource allocation decisions, *vis-a-vis* capital structure of the firm should be given added emphasis for firms to be able to add value to their stockholders' and bondholders' investments. The level of debt and equity that the firm should use in their capital structure will impact the overall performance of firms as tested and confirmed in the present study. Practitioners should consider in their strategy formulation and resource allocation decisions as to how the cost of capital could be minimized while maximizing the value of debt and equity in order to increase the value addition to the firm.

This study throws light on some of the key relationships that managers ought to consider in the choice of resources they make during the formulation and implementation of strategies. Key questions that need to be answered by practitioners are:

(a) What type of strategies add most value to the firm?
(b) What type of strategies should the firm embark on in the wake of environment risk factors?
(c) What types of capital resources need to be considered during the resource allocation process that add most value to the firm?
(d) How should the firm align the environmental factors to its corporate strategies and its capital structure to maximize its value?
(e) What strategies and resource allocation decisions of the firm lead to the maximization of value of both its stockholders' and bondholders' investments?

The present study provides insight into some of the key relationships identified in the above set of questions. The decisions that managers need to make on the long-term should take into consideration the issues raised above. This will be the essence to value addition to the firm's existing resources that will lead to stakeholder satisfaction.

Developing the Co-alignment Model: Implications on Future Research

The main objective of this study was to test that the co-alignment model holds good, which was accomplished. Olsen et al. (1998) point out that there needs to be co-alignment between the constructs, i.e. environment, strategy, and structure for firms to be able to add value consistently to their existing set of resources. This study confirms this notion using corporate finance and strategic management theory.

It is essential to point out that the co-alignment principle was tested and confirmed in the present study. Insofar as this will add to the existing literature on strategic management and financial management of firms, it is equally important for researchers to test the co-alignment between the environment, business strategy, organizational structure, and firm performance. The present study lays the groundwork for developing key measures for each of the constructs within the co-alignment model. Measures such as ECONBETA, OPCASHBETA, and MBETA that represent the environment risk construct, which were developed in the present study could be used in future research efforts. New measures such as the ones that represent the interaction between the economic macro-environment and the cost structure of the firm could be added on to the existing measures to include the effects of the firm's external value drivers. Also, measures that capture the effects of other environmental categories, i.e. socio-culture and technology could be used in future research efforts.

The development of measures applies more to the corporate strategy construct. Since all three measures, i.e. SALESGR, ASSETGR, and GRPOTEN were not significantly related to firm performance, it is essential to verify this in future research efforts, which may lead to the development of new measures.

The present study focuses on restaurant firms that are publicly owned and operate within the United States. To be able to make inference to other restaurant firms that operate nationally but may not be publicly owned, future research could carry this effort forward to include privately held restaurant firms that operate within the United States. This will help control for country effects and currency effects, which is essential for testing the constructs, especially the environment risk construct. Furthermore, this will help in testing the model using a new sample of restaurant firms with a different attribute or set of attributes, which will improve the generalizability of the co-alignment model as proposed in this study.

The firm performance variables used in this study represents both stockholder and bondholder satisfaction indicators. Other indicators such as the firm's market indicators could be used to represent this construct that include dividend yield, earnings per share as well as price-earning ratios. Also, bondholder satisfaction indicators that capture other cash flow measures other than free cash flow per share could be used in future research efforts.

The objective of this study was to test that a significant amount of variance in firm performance is explained by environment risk, corporate strategies, and capital

structure constructs. Future research efforts could test the causal relationships between these constructs. This will be the next step to incrementally testing, proving the viability of, and developing the co-alignment model.

Aligning Strategic Management and Corporate Finance Research Domains

As pointed out in chapter 2, management scholars such as Barton & Gordon (1987, 1988) emphasized the importance of aligning strategic management and corporate finance research. The alignment of the two domains would take place if researchers define constructs and operationalize them to include key variables and measures that are common to both domains. The present study takes this approach, in that the definition and operationalization of constructs include both strategic management and corporate finance theory. The strategic management concepts used in the present study include the co-alignment model that provides the framework for the study. On the other hand, corporate finance and strategic management theories are used to define the constructs and to operationalize them. The combination of the two research domains in developing and explaining the phenomena in the context of management of firms is one of the contributions of this study. Future research could continue to develop and test the commonalties that exist between various research domains within the theory of management of business firms.

The present study also confirms the use of surrogates used in corporate finance research within the strategic management research domain. The fact that almost 60 percent of variance in firm performance was explained by variables and measures that were developed from corporate finance research, which have also been used in the field of strategic management goes on to prove the commonalties that exist between the two domains. For instance, although the measures used to operationalize the environment risk construct were finance-related measures, they reflected the interaction between the firm's remote environment and task environment. This has been emphasized by management researchers both in the strategic management domain as well as in the hospitality management domain.

The corporate strategy construct comprising of dimensions, i.e. growth and liquidity strategies were developed from both the strategic management and corporate finance domains. Growth as well as liquidity strategies, which are dimensions used in the corporate finance domain, have been used in the strategic management domain as well (e.g. Barton & Gordon, 1988; Lancaster et al., 1999). This further proves the commonalties that exist between the two domains. Moreover, the measures of growth and liquidity have been used in both strategic management and corporate finance research, which also proves that researchers have delved into the concepts that are common to management of firms and used them in research efforts that transcend individual sub-domains of economics.

The relationship between corporate strategies and capital structure was tested by Barton & Gordon (1988) that was based on the concepts the authors developed in Barton & Gordon (1987). Note that capital structure concepts are an integral part of corporate

finance theory, and their use in strategic management research proves the commonalties that exist among the two domains.

Finally, the firm performance construct and the measures that were used in the present study to represent this construct have been historically used in both domains. Return on equity and free cash flow per share are variables that have been used in both domains, although free cash flow has been less predominantly used in strategic management research. Hospitality management researchers such as Olsen et al. (1998) have emphasized the use of this measure as a surrogate of the firm performance construct.

Although several researchers have tried to emphasize the difference between corporate finance and strategic management research, the commonalties that exist between the two domains warrants research efforts in the future that purport this.

Limitations

The sample size was one of the limitations of the present study. A sample size of 48 firms may have been a factor that led to negative results pertaining to some of the hypotheses tests. Since firm growth strategy as a dimension was tested to be unrelated to firm performance, several questions arise as a result. Could this have been because of the limited sample size? Further, if this was the case, then why were other constructs and measures significantly related to firm performance? Future research could use a larger sample size to test the relationship between growth strategies and firm performance in order to rule out the possibility of sample size effects on hypotheses testing.

Conclusions

The main objective of this study was to test the viability of the co-alignment model. Results indicate that the independent constructs, i.e. environment risk, corporate strategy, and capital structure, explain a significant amount of variance in firm performance. The hypotheses testing revealed that there exists significant relationship between the constructs, i.e. firm's environment, its corporate strategies, capital structure, and performance when tested individually as well as collectively.

It should be pointed out that growth strategies, i.e. sales growth, asset growth, and growth potential variables were not significantly related to firm performance. Although it can be said that growth strategies do not add value to the firm, the fact that these strategies were not significantly related to firm performance calls for further testing of these dimensions in future research work. This study raises an important question: does firm growth really matter?

The above question is important for the practitioners to ponder over. The emphasis on growth strategies in the restaurant industry as well as other sectors of the hospitality industry has lead to the demise and below par performance of several firms

within the industry. This study questions the use of this strategy by firm managers of the industry.

This study also throws light on how the firm's managers could formulate corporate strategies and allocate the firm's capital resources to manage environment risk, which would lead to improvement in firm performance. Practitioners in the hospitality industry could focus more on corporate strategy and capital structure decisions in terms of how they add to stakeholder value. Little importance has been given to liquidity strategy in the hospitality industry. This study leads us to believe that this is an important corporate level strategy, which should be used more effectively in the firm's strategy formulation framework.

This study also supports the notion that research efforts in the strategic management domain ought to consider the use of concepts in the corporate finance domain while testing and developing theory. The commonalties that exist between the two domains call for more research efforts that show an alignment in theory development in both domains. Moreover, the alignment between corporate finance and strategic management concepts could be applied to the development of the co-alignment model. As suggested in Chapter 5, future research efforts ought to take the co-alignment model forward and test it not only in different settings, but also at different levels of the firm's strategy, i.e. business level strategy and functional level strategy.

Summary

This chapter explains the results obtained in Chapter 4 while highlighting how they go on to answer the research questions that were posed in the beginning of the study. The implications on the restaurant industry are delved into in terms of how the practitioners could reorient their approach to strategy formulation and implementation. The alignment between strategic management and corporate finance domain is emphasized upon through the use of concepts and theories that are common to both fields. The chapter also details how the co-alignment model could be further developed in future research efforts, which would not only insure the applicability of the model, but also its generalizability.

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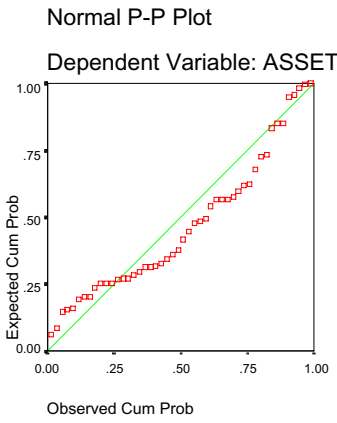
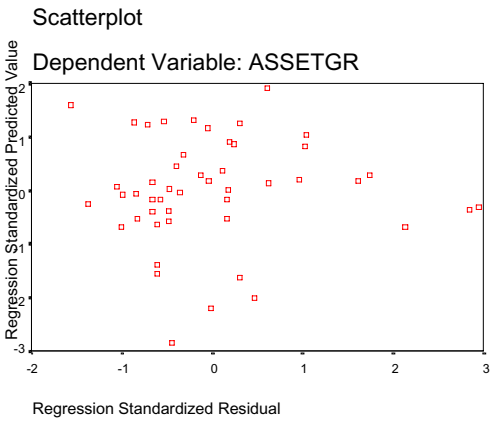
Appendix A

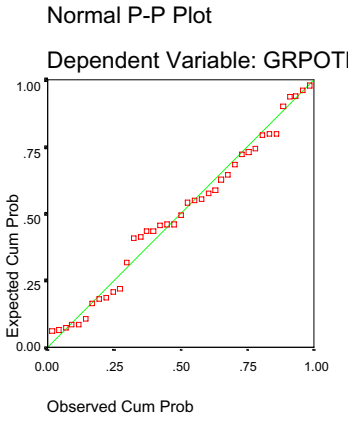
Normal P-P Plot and Scatter Plot

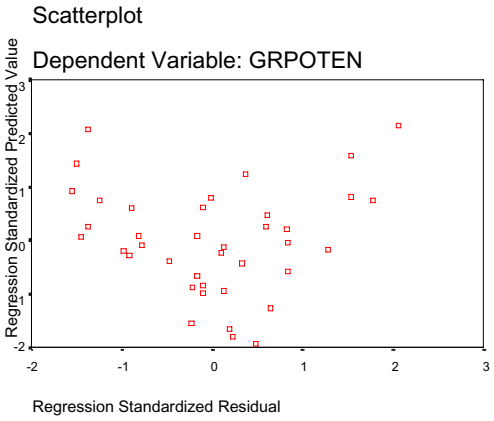
Equation 2: ASSETGR = b0 + b1* MBETA + e



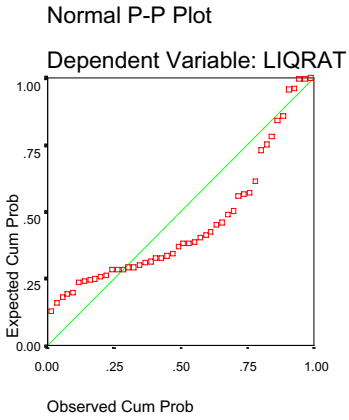


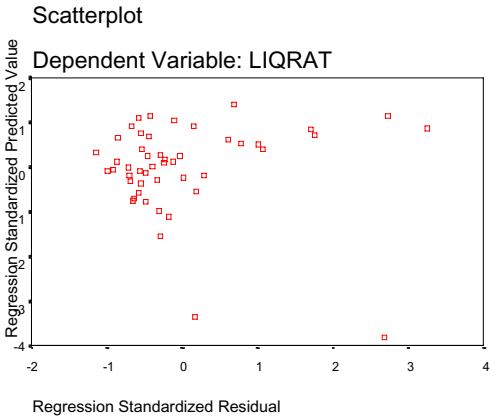
Equation 3: GRPOTEN = b0 - b1* ECONBETA - b2*OPCASHBETA + b3* MBETA + b4* SIZELOG + e





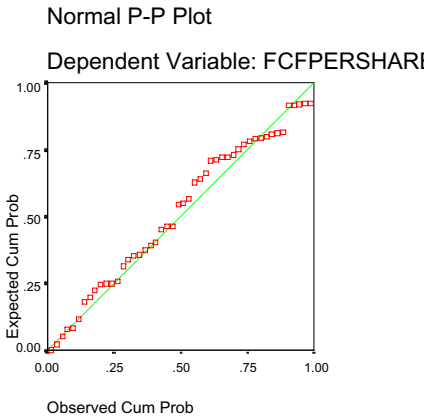
Equation 4: LIQRAT = b0 - b1 * OPCASHBETA + e

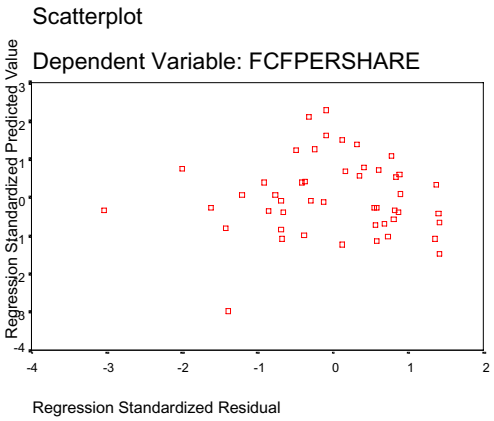




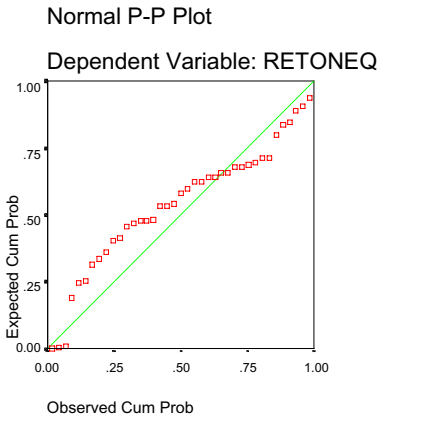
Appendix A (contd.)

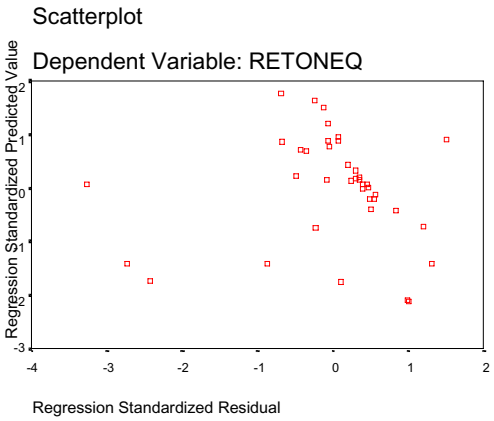
Equation 6: FCFPERSHARE = b0 - b1* OPCASHBETA + b2* MBETA + b3* LIQRAT + e



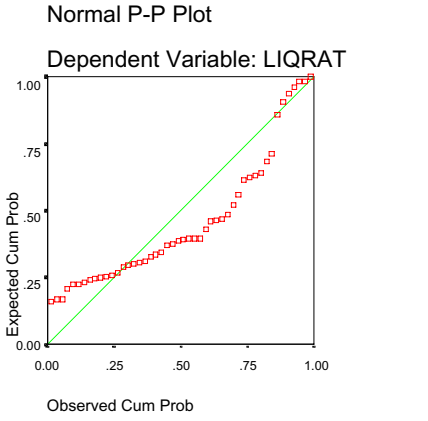


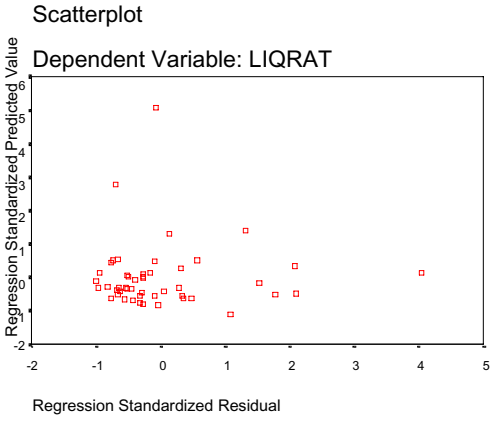
Equation 7: RETONEQ = b0 - b1* ECONBETA + e





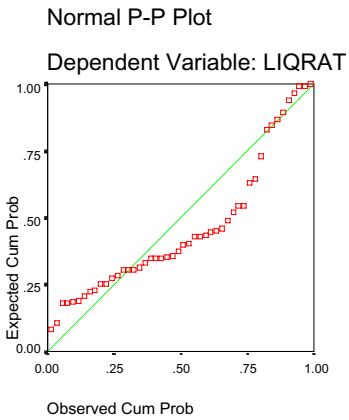
Equation 8(1): LIQRAT = b0 + b1* SALESGR - b2* SIZELOG + e

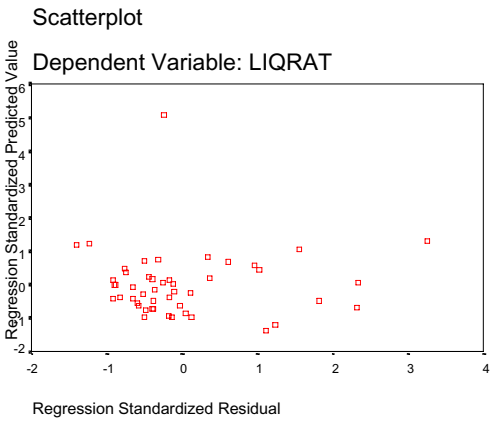




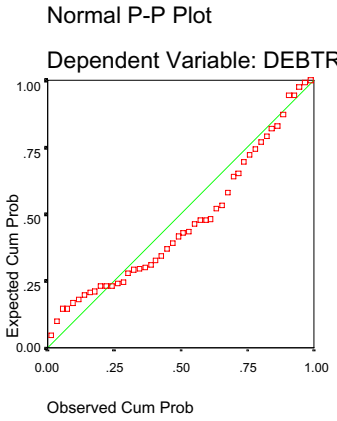
Appendix A (contd.)

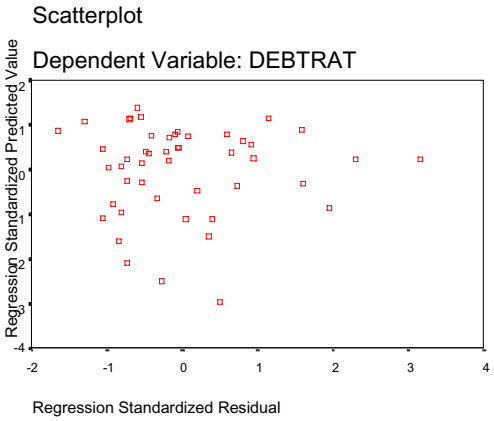
Equation 8(2): LIQRAT = b0 + b1* GRPOTEN - b2* SIZELOG + e



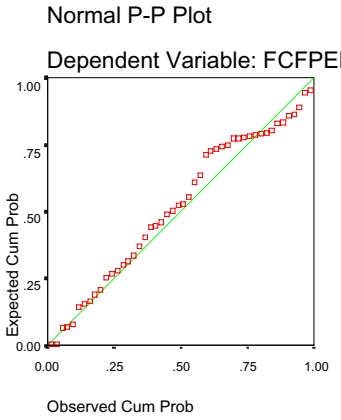


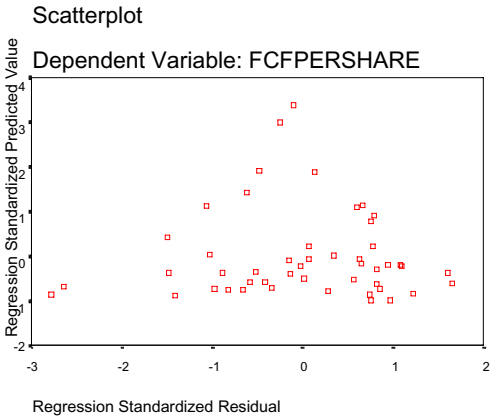
Equation 9: DEBTRAT = b0 - b1* LIQRAT + e





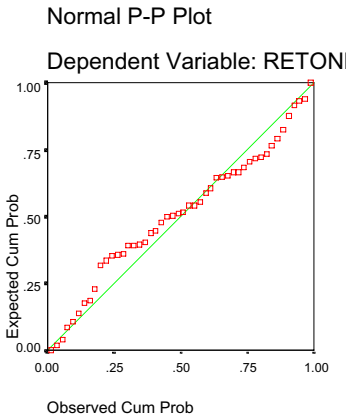
Equation 10 (2): FCFPERSHARE = b0 + b1*LIQRAT + e

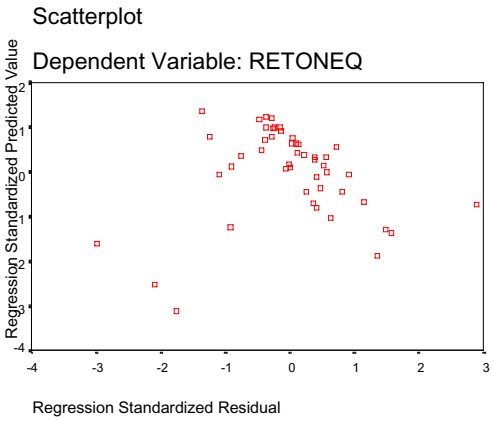




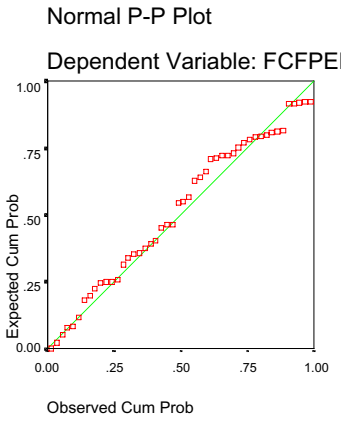
Appendix A (contd.)

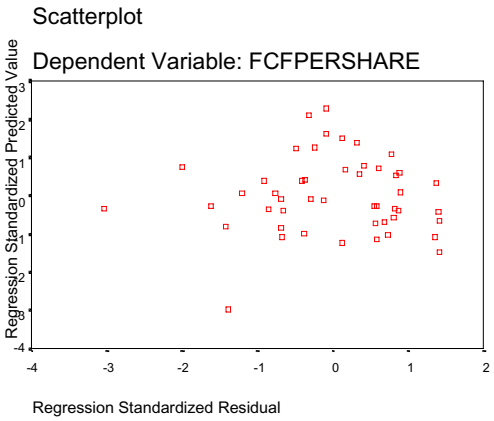
Equation 12: RETONEQ = b0 + b1*DEBTRAT + e



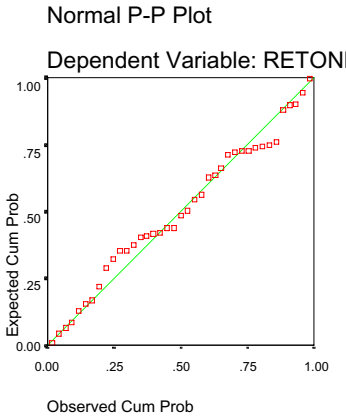


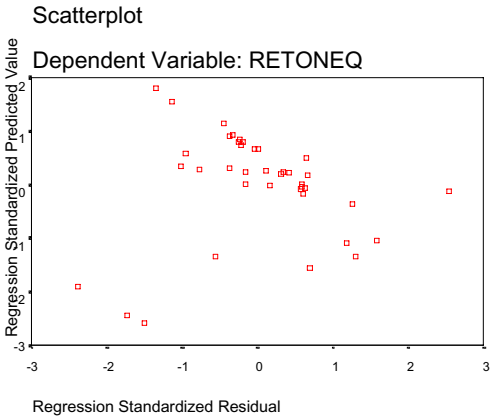
Equation 13 (a): FCFPERSHARE = b0 - b1* OPCASHBETA - b2* MBETA + b3*LIQRAT + e





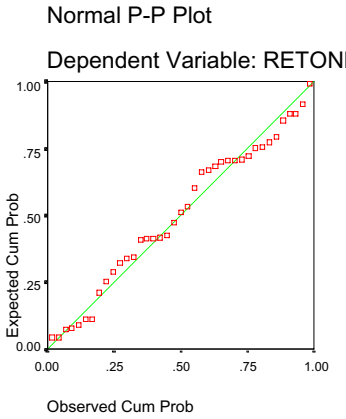
Equation 13 (c): RETONEQ =b0 - b1 *ECONBETA + b2*MBETA - b3*DEBTRAT + e

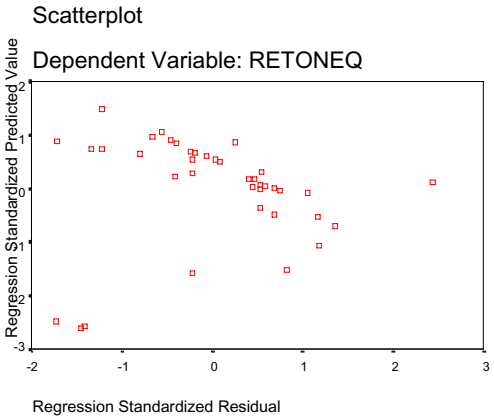




Appendix A (contd.)

Equation 13 (e): RETONEQ = b0 - b1* ECONBETA + b2* MBETA - b3* LIQRAT - b4* DEBTRAT - b5* SIZELOG + e





Appendix B

Sample of Restaurant Firms (N=48)

BENIHANA INC
ARK RESTAURANTS CORP
APPLEBEES INTL INC
BACK YARD BURGERS INC
BOB EVANS FARMS
BRINKER INTL INC
BLIMPIE
CBRL GROUP INC
CEC ENTERTAINMENT INC
ELMERS RESTAURANTS INC
EATERIES INC
CKE RESTAURANTS INC
CHART HOUSE ENTERPRISES INC
CHECKERS DRIVE-IN RESTAURANT
CHEESECAKE FACTORY INC
O CHARLEYS INC
PANERA BREAD CO
OUTBACK STEAKHOUSE INC
PAPA JOHNS INTERNATIONAL INC
FURRS RESTAURANT GRP -CL A
GOOD TIMES RESTAURANTS INC
GRILL CONCEPTS INC
ICH CORP
J ALEXANDER CORP
JACK IN THE BOX INC
IHOP CORP
LUBYS INC
MAX & ERMAS RESTAURANTS
MAIN STREET AND MAIN
LONE STAR STEAKHOUSE SALOON
MORGANS FOODS INC
NATHANS FAMOUS INC
MORTONS RESTAURANT GROUP INC
PIZZA INN
PICCADILLY CAFETERIA
QUIZNOS CORP
RUBY TUESDAY INC
RYAN'S FAMILY STK HOUSES INC
RARE HOSPITALITY INTL INC
FLANIGANS ENTERPRISES INC
FAMILY STEAK HOUSES OF FLA
FRESH CHOICE INC
SANTA BARBARA RESTAURANT GRP
SONIC CORP
STEAK N SHAKE CO
TBA ENTERTAINMENT CORP
WENDY'S INTERNATIONAL INC
SIZZLER INTL INC