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Article: **Environmental Risk, Corporate Strategy, Financing Strategy and Firm Profitability: Evidence from South East Asian Countries**

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Environmental Risk, Corporate Strategy, Financing Strategy and Firm Profitability: Evidence from Southeast Asian Countries

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Abstract

The study employed the co-alignment model to explain the variation in firm profitability, keeping in view a combination of constructs related to strategic management and corporate finance. Previous studies have attempted to separately analyze the effect of environmental risk, corporate strategy and financial strategy on firm performance; however, the simultaneous effect of these constructs on firm performance is very limited and attempts at designing a unified model encompassing these constructs are lacking. The current study strives to fill this research gap. Data was collected from COMPUSTAT and the respective stock exchanges for the period 2013-2019. The sample consists of a total of 4837 publicly traded firms situated in Southeast Asian countries. Data was analyzed using fixed effects model, the findings of the study revealed that environmental risk, corporate strategy and financial strategy explain/induce significant variation in firm profitability. These findings can be used to formulate better policies concerned with addressing the volatility and uncertainty dimensions of work environment as well as resource development.

Keywords: Environmental Risk, Corporate Strategy, Financing Strategy and Firm Profitability

Introduction

The ultimate goal of every firm is to remain competitive in the marketplace since having a competitive advantage is associated with superior performance (Yang et al., [2018](#)). The superior performance of firms is attributed to their ability to formulate and put into practice various strategic decisions efficiently and effectively (Hill & Jones, [2014](#); Thompson et al., [2004](#); Muritala, [2012](#); Muhanguzi, [2019](#)). Although there are countless

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strategic decisions that a firm makes to manage its operations, they can be broadly grouped into three categories such as environmental and economic risk, financing strategy, and corporate strategy (Olsen et al., [1998](#)). Although previous studies have attempted to analyze these factors separately (Kotha & Vadlamani, [1995](#); Chathoth & Olsen, [2005](#), [2007](#); Afza & Ahmed, [2017](#)), the evidence of a simultaneous effect of these constructs on firm performance is very limited.

Moreover, researchers pursuing research in corporate finance and strategic management have not conceptualized a unified model that empirically analyzes how these factors affect firm performance. Hence, in this study, we addressed this gap by analyzing the simultaneous effect of environmental risk, financing strategy, and corporate strategy on the financial performance of firms in Asian emerging countries. The unified model, commonly known as the co-alignment model, states that four important factors may increase a firm's chance to achieve its financial goals. These factors are the external environment of a firm, strategic choice, the financial structure of a firm, and firm performance.

A stable and conducive environment allows firms to make better long-term decisions that enhance firm profitability. Uncertainty leads to volatility in financial markets, affecting firm profitability (Oxelheim & Wihlborg, [1997](#)). If the environmental risk is managed efficiently, it will have a significant effect on firm profitability (Malik et al., [2020](#); Al-Aimar et al., [2021](#)). The external environment contains various opportunities and threats, and it is up to the firm to make sound corporate strategies. These strategies help firms to exploit opportunities and minimize the negative impact of a threat, which has a positive impact on firm profitability (Olsen et al, [1998](#); Qiuqin et al., [2020](#)). Beard and Dess ([1981](#)) found a significant impact of corporate and business level strategies on firm performance. Furthermore, firms are expected to make sound financing strategies aimed at achieving optimal structure, which would increase firm value (Rajan & Zingales, [1995](#)). Rehman et al, ([2016](#)) found a positive impact of capital structure on firm performance; whereas, ElSayed ([2009](#)) found no or weak impact of capital structure on firm performance.

Incremental research is important in any subject area for theory building; at the same time, it is equally important to conduct empirical tests

to verify and confirm the foundations of theoretical models on which they are based and ex-ante conceptualizations, respectively. The constructs of the co-alignment model, namely environmental risk, financial strategy, corporate strategy, and firm performance are used both in strategic management and corporate finance domains (Chathoth & Olsen, [2007](#)). There are similarities in these constructs in both domains; however, there is a difference in how variables used to measure these constructs are defined in both domains. These differences in variable definition could be based on the respective theories of both domains.

Based on the assumption that pivotal concepts in strategic management and corporate finance are theorized along the same lines, it becomes essential to analyze and determine the potential similarities existing between these concepts. Co-alignment acts as an umbrella under which the key concepts of both domains, sharing common grounds, will hold well in the model. It will help explain the relationships between the variables and constructs of these two domains sharing common grounds (Chathoth & Olsen, [2007](#)). The reasons mentioned above in addition to the need to test the empirical viability of the co-alignment model provide the basis for testing the existence of co-alignment between environmental risk, financial structure, corporate strategy, and firm performance. Moreover, testing the co-alignment model in the context of corporate finance related concepts is needed due to the lack of prior research testing the relationship between the variables and constructs identified within the model.

Moreover, it is important to understand that according to both domains, firms that are effective in managing their resources are able to add value to their existing resources (Sax & Anderson, [2019](#)). Therefore, there is a need to research the common ground overlapping these two domains. Such research will help provide further explanation on how the interaction between the constructs and variables can be regarded as the key to the success of an organization. The justification for doing so is based on the argument that practitioners will be provided with an opportunity and basis to analyze firm performance from the standpoint of strategic management. We believe that these three constructs will allow us to better understand not only the variation in firm profitability but also the extent and size of variation in firm profitability. Moreover, researchers of corporate finance

and strategic management have not yet attempted to develop a model that proves the empirical authenticity and ability of these constructs to explain these constructs influence on firm performance. For this reason, we provided empirical evidence that showed that these three constructs have a significant variation in firm profitability. Moreover, the findings of the study provide an opportunity for the practitioners to assess the strategic orientation of their firms from a financial perspective, supporting the concept of organizational fit. This paper aimed to analyze the effect of environmental risk, corporate strategy, and financing strategy on firm profitability as a co-alignment model.

Theoretical Background

Several researchers from the business and management field have attempted to theorize and empirically analyze the influence of environment, corporate strategy, and financing strategy on firm profitability, both individually or using multiple constructs (Kotha & Vadlamani, [1995](#); Chathoth & Olsen, [2005](#); Chathoth & Olsen, [2007](#); Afza & Naveed, [2017](#)). Although the outcomes of the studies are inconclusive as far as confirming the association between various constructs, these outcomes played a significant role in adding to the literature on strategic management-corporate finance linkage. Many management theorists have argued that firms should try to achieve a fit between the environment of the firm, its strategy, structure, and controls if it aims to achieve a competitive advantage (Jennings & Lumpkin, [1992](#)). The performance objectives identified can be achieved only if strategies are effectively formulated and implemented. Many empirical studies, focusing on improving firm value through strategic planning, have used accounting-based measures of firm performance to determine the success of strategic planning (Barney, [2020](#)). Similarly, studies have been conducted to determine the impact of corporate and business strategy on firm performance (Mehmood et al., [2019](#); Qiuqin, et al., [2020](#)). As a result of these efforts, the “co-alignment model” was developed. The theoretical foundation of the “co-alignment model” allows alignment between a firm’s strategy, the environment in which it operates, and its performance (Olsen et al., [1998](#)). Strategic management theorists, such as Barton and Gordon ([1987](#)), empirically attempted to test models involving a combination of concepts from corporate finance and strategic management. Such

approaches have rarely been used in empirical studies. Furthermore, it is even more important to test these constructs simultaneously in both of these domains, since related theories have been developed, particularly in the context of corporate strategy, environment, financing strategy, and firm profitability.

Many management theorists and researchers have focused on the co-alignment process in their empirical studies (Thompson, [1967](#); Venkatraman & Prescott, [1990](#); Farjoun, [2002](#); Chathoth & Olsen, [2005](#); Chathoth & Olsen [2007](#); Mubashar et al., [2012](#)). The co-alignment process theorizes the relationship, that is, “consistency, contingency, or fit” among the four constructs: the environment, corporate strategy, financing choice, and firm profitability (Venkatraman & Prescott, [1990](#)). Co-alignment takes place “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](#)).

The co-alignment between environmental risk, corporate strategies, financial structure, and firm performance can be validated if we consider the lag effects of risk on resource allocation decisions. Corporate strategies pertaining to the allocation of resources affect the financing choices of the firm (Lowe et al., [1994](#)). Achieving optimal capital structure minimizes the firm cost of capital, which in turn increases firm profitability (Modigliani & Miller, [1958](#); Rajan & Zingales, [1995](#); Gitman & Zutter, [2015](#)) Firms that are efficient in managing resource allocation and capital structure decisions perform better and add value to the firm as compared to firms that do not carry out this process efficiently (Barton & Gordon; [1987](#)).

The current study uses the co-alignment model as a basis to explain variation in firm profitability, keeping in view a combination of constructs related to strategic management and corporate finance. More specifically, it analyzed the effect of environmental risk, corporate strategy, and financial strategy on firm profitability. In order to measure the simultaneous impact of independent variables (constructs) on firm profitability, the constructs are entered simultaneously into the model during testing. It is important to understand here that the objective of this study was not to test the effects of

co-alignment between the proxies representing various constructs; rather, it inquired whether environmental risk, corporate strategy, and financing strategy can be used effectively to explain the variation in firm profitability.

Relationship between Individual Constructs

In empirical literature related to strategic management, several studies have attempted to examine the association between corporate strategy and firm environment. In the context of corporate finance, scholars have attempted to investigate the association between environmental risk and corporate strategies of firms. Variation in cashflows caused by environmental risk can lead to the increased implementation of growth related strategies. While investigating the positive effect of risk on return, Chiang and Zhang (2018) argued that stocks carrying higher market risk are expected to provide higher returns to their shareholders in order to be compensated for the higher risk they are taking while investing in such stocks. Similarly, Dvorsky et al. (2021) also found a positive effect of business risk on firm performance in small and medium enterprises. Conversely, Veliyath (1996) identified the negative impact of business risk on firm performance. The firm performance will be lower if the business risk is high and vice versa. Titman and Wessels (1988) found a negative effect of firm risk on its level of debt. Since we have used earnings to operationalize firm risk, the above-mentioned relation applies to the business risk of firms.

Another dimension of corporate strategy is related to firm growth (Zook & Rogers, 2001; Macias & Lievano, 2017). Growth options available to an organization include expansion in existing business lines, diversifying into related or unrelated businesses, licensing, joint ventures, franchising, and mergers and acquisitions (Ilori, 2015). Moreover, geographic diversification led growth benefits the organization in several ways such as risk mitigation, new markets for products, and identifying cheaper factors of production. (Parola et al., 2015). Shepherd (1972) analyzed and empirically tested the effect of business risk on firm growth measured through sales and assets and concluded that business risk and firm growth are negatively related. Firms can achieve their growth potential through diversification (related or unrelated) strategies (Rumelt, 1974; Zook & Rogers, 2001). Although it is expected that successful implementation of

growth strategies positively impacts firm profitability, empirical results are mixed and inconclusive. Mehmood et al. (2019) found a positive effect of product diversification as well as geographic diversification on firm performance. Krivokapic et al. (2017) also confirmed the positive effect of business line diversification on firm performance. Conversely, Lee (2017) found a negative effect of business line diversification on firm performance. Additionally, industrial differences between industries can have a significant influence on different performance outcomes, affecting the relationship between firm growth and performance (Kim et al., 1998).

Liquidity management strategies used by firms have also been correlated with potential risks in the external environment. Firms having lower returns on their physical assets and higher earnings volatility are more likely to invest in liquid assets than physical assets provided that liquid assets are offering more returns as compared to physical assets. Kim et al., (1998) tested liquidity's impact on firm performance and concluded that liquidity positively impacts firm performance. Conversely, Dahiyat (2021) found an insignificant negative impact of liquidity on firm performance; whereas, Batten and Vo (2019) found a negative effect of liquidity on firm performance. Furthermore, Titman and Wessels (1988) found a negative influence of liquidity on a firm's earnings and risk on its debt level. In other words, the level of debt that a firm has declines if the earnings volatility is higher, because in unfavorable environmental conditions, the priority of a firm is to lower its risk as much as possible.

In related literature of strategy, Chandler (1962) initially empirically tested the strategy/structure relationship of firms. The findings of this study revealed that firm structure follows firm strategy. Kim et al., (1998) concluded that a firm growth strategy positively impacts its liquidity. Similarly, Chathoth and Olsen (2005) also found that a firm's growth strategy positive impact its level of liquidity. Barton and Gordon (1987), while emphasizing that a relationship between firm growth strategy and financing choice does exist, concluded that the increase in sales growth positively impacts the debt level of a firm. This show that favourable environmental conditions pertaining to firm growth will lead to more use of debt than equity to fund that growth. Alternatively, Ross et al., (1999) argued that firms operating in industries categorized as higher-growth

industries, having higher growth potential, will use less debt in their financing mix as compared to firms that are operating in low growth industries. The reason behind this difference is that in high growth industries, firms are able to earn higher profits which increases their ability to finance from internal sources and lower their dependence on external funds.

Rehman (2016) reported that growth rate positively impacts leverage of firms. The literature on the relationship between firm growth and performance depicted that firm growth positively impacts firm performance. In a meta-analysis of related empirical literature, Capon et al. (1990) revealed that “growth analyzed in 88 studies, is consistently related to higher financial performance”. Similarly, (Margaritis & Psillaki, 2010; Fosu, 2013) also confirmed that leverage has a positive influence on firm profitability. Ilyukhin (2015) analyzed the liquidity/financing choice relationship and concluded that since firms keep more of their investments in liquid assets, their reliance on the external debt will be low and will result in lower leverage ratios. Studies from (Baskin, 1987; Rahman et al., 2016; Nguyen & Nguyen, 2020; Putri & Rahyuda, 2020) also confirmed that financing choices of firms negatively impact firm profitability. Kinsman & Newman (1999) provided three main reasons to examine the capital structure/firm performance relationship. First, average firm debt has considerably increased in the last 5-10 years of business. Thus, it is pertinent to analyze its impact on firm performance. The findings of this analysis will aid managers in making debt related decisions, it will also inform them the appropriate level of debt that they can borrow. Second, both investors and managers have different priorities with respect to debt, which is why it is important to know debt-related effects on firm performance. Lastly, the most important reason to study how financing choices affect firm profitability is to examine its association with shareholder wealth since the primary objective of firms is to maximize the wealth of its shareholders. Several researchers have attempted to analyze the financing choice/performance relationship; however, empirical evidence on capital structure/performance relationship is mixed as well as contradictory. While some studies documented a positive impact of leverage ratios on firm profitability (Harris & Rajiv, 1990; Roden & Lewellen, 1995; Hadlock & James, 2002; Rehman et al., 2017); at the same time, studies from (Titman

& Wessels, [1988](#); Fama & French, [1998](#); Wald, [1999](#); Li, [2000](#); Abor, [2007](#); Salim & Yadav, [2012](#); Ullah et al., [2020](#); Rahman et al., [2020](#)) documented a negative impact of the leverage ratio on firm profitability.

The constructs and variables mentioned above and their interrelationships explain the interdependencies of these variables between them. These interdependencies form the basis on which these variables are used to measure their impact on firm profitability. Although the environmental construct variables affect the corporate strategy construct variables, which in turn are affecting the firm's financing choice construct variables, their relationship is non-recursive. Therefore, we can safely assume that these constructs and variables are not influenced by firm performance, rather they may influence firm performance. Although, we can argue that the financial performance of previous years could affect future strategy formulation, environmental risk assessment and financing decisions of firms; however, in most cases, such relationships will exist only in time series models. In this study, we used panel data regression analysis containing both time series and cross-sectional data. Considering the foregoing arguments and interrelationships between these constructs, we proposed that environmental risk, corporate strategy, and financing strategy have an unidirectional relationship with firm profitability, leading to a model formulation that is non-recursive.

Conceptual Framework

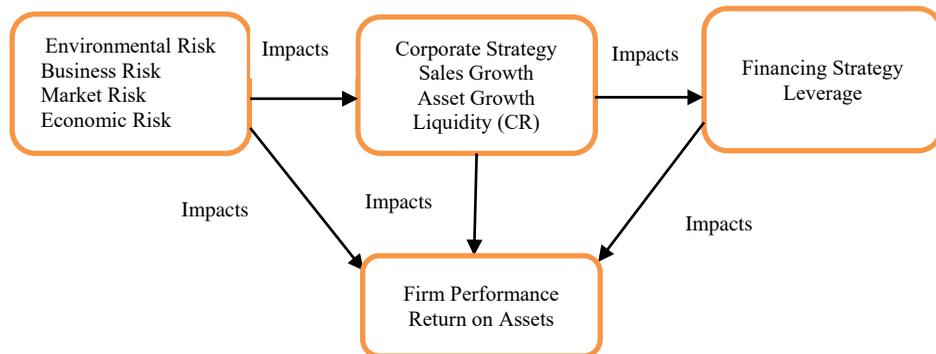
The constructs identified in this study are environmental risk, corporate strategy, financing strategy, and firm profitability. In literature pertaining to strategic management, risk related to the environment is studied under the concepts of uncertainty, dynamism, and complexity (Jurokovich, [1974](#); Olsen, [1980](#); Dess & Beard, [1984](#), Olsen et al., [1998](#)); whereas, in corporate finance, this type of risk is classified into three categories: business risk, market risk and economic risk (Oxelheim & Wihlborg, [1997](#)). It is important to mention here that the overall definition of risk is similar in both corporate finance as well as strategic management. A firm's strategy to exploit potential opportunities and avoid or reduce threats is characteristically similar to the kinds of risk emphasized by theorists of corporate finance. Both in corporate finance and strategic management domains, researchers have investigated the effect of environmental risk on

firms and how strategy formulation is affected by changes in the environment. Most researchers recommended that strategies should be formulated in a way that addresses these changes in the external environment. Hill and Jones (2014) suggested that firms should conduct a SWOT (strength, weakness, opportunities, and threats) analysis to see how firms exploit opportunities with their strengths and overcome its threats through the correction of firm weaknesses. Furthermore, they elaborated that making strategic choices includes the identification of strategies at the corporate, business, and functional level with an overall aim to quickly adapt to the fast-changing competitive environment.

Moreover, concepts such as, economic risk, business risk, and market risk, are also applicable to corporate finance where theorists have defined and explained how a firm manages its risk by keeping in view the objective to maximize firm value. In corporate risk, these concepts come under risk management and how resource allocation is impacted by risk. The main difference between corporate finance and strategic management lies in how management levels are defined. In corporate finance, allocation of resources and firm strategy is studied under capital structure and corporate strategies of the firm; whereas, in strategic management, they are addressed as corporate, business, and functional level strategies. Using the co-alignment model involving a combination of corporate finance and concepts from strategic management, the proposed model is presented in Figure 1 given below:

Figure 1

Conceptual Model adopted from Chathoth and Olsen (2007)



Note. The purpose of arrows between environmental risk, corporate strategy, and financing strategy is to highlight the interrelationship between these constructs only. Scanning the external environment helps us identify opportunities and threats for which we design corporate strategies to tackle these opportunities and threats. Based on these strategies, we select our financing strategy. All these constructs affect firm performance

For this study, environmental risk is measured as “the impact of the firm’s external environment on the firm profitability” (Oxelheim & Wihlborg, [1997](#)). Variability in firm profitability can be attributed to a firm’s exposure to risk. According to Oxelheim and Wihlborg ([1997](#)), firm risk exposure can be categorized into three types: business, economic, and market risk. These three types of risks have been used in empirical studies to explain the effect of volatility and uncertainty on firm performance, market risk (Damodaran, [1997](#); Chathoth & Olsen, [2007](#); Miller et al., [2002](#); Malik et al., [2021](#)), business risk (Mehran, [1995](#); Fabozzi, [1999](#); Ebaid, [2009](#); Khan et al., [2021](#)), and economic risk (Ross, et al., [1999](#); Chathoth & Olsen, [2007](#)). Among these risk types, economic risk is associated with capturing the volatility, which rises due to the changes in the macroeconomic environment. Business risk is associated with measuring firm cash flow volatility, that is, how the management of assets leads to variations in cash flows at different time periods. Lastly, market risk measures the variation in stock prices (firm market performance) with that of the market average.

Chathoth and Olsen ([2005](#)) argued that two variables can be used as a measure of corporate strategies. They are liquidity related and growth-related. Both these strategies are related to decision making at the top level where the future plans of the business are set by choosing the markets needed for competition and business lines needed to expand the firm further (Hill & Jones, [2014](#)). The objective behind such decisions is to increase firm earnings and maximize firm value (Thompson et al., [2004](#)). In this study, we used asset and sales growth to measure growth, which stands as a proxy to corporate strategy. Moreover, the use of variable related to liquidity (CR) as a growth measure is justified from the findings of (John, [1993](#); Kim et al., [1998](#); Batten & Vo, [2019](#)).

The financing strategy, which is the third construct used in the study, is measured through the debt to equity ratio. It determines how much debt and equity (financial strategy) is used by the firm to finance its investments. In the co-alignment process, the structure of a firm is viewed from a financial perspective. For this reason, financial structure is used as a proxy to measure the financing strategy of the firm (Chathoth & Olsen, [2005](#)). Although firms and their management aim to manage these two financial structure components in such a way that it reduces the overall cost of capital, managers must find the right balance between debt and equity. It not only reduces the cost of capital but also maximizes the firm value. Moreover, it is also important to understand that changes in the external environment and corporate strategies also influence the financing decisions of the firm (Ross et al., [1999](#)).

Lastly, firm profitability, the fourth construct of the study is measured using return on assets (ROA). ROA is a common measure used in empirical studies for measuring financial performance (Fama & French, [1998](#); Hadlock & James, [2002](#); Ebaid, [2009](#); Rehman et al., [2017](#)). It is used since it is a comprehensive measure of firm profitability. ROA is appropriate for this study since we applied environmental risk, corporate strategy, and financing strategy, all of which affect business as a whole. Moreover, the financial strategy involves borrowing from external sources. Hence, it is important to use ROA since it measures return to all fund providers, rather than other measures of profitability such as return on equity (ROE) which only measures ROE providers.

Hypothesis

As discussed earlier, all those firms, that are able to develop a good corporate strategy efficiently and effectively, manage the environmental forces and choose an appropriate financing choice to support their growth strategy. They will perform better than firms that are unable to do these things properly. We assume that independent variables (constructs) used in the model will help us in explaining a significant variation in firm profitability.

H₁ Variables of the co-alignment model representing the independent constructs of corporate strategy, environmental risk, and capital structure

will explain the most variation in firm profitability among the incremental models.

Using variables from the constructs, incremental models were developed to test the above-mentioned hypothesis. In all models, firm profitability (ROA) is used as a dependent variable, whereas environmental risk, corporate strategy, and financing strategy are used as independent variables. They are introduced into the model incrementally. This is done to highlight the variation in firm profitability since independent constructs are added to the estimating model.

Models

Environmental risk, Corporate Strategy and Firm Profitability

$$FP (ROA)_{it} = \alpha_0 + \beta_1 BR_{it} + \beta_2 MR_{it} + \beta_3 ER_{it} + \beta_4 SG_{it} + \beta_5 LIQ_{it} + \beta_6 AG_{it} + \beta_7 FS_{it} + \mu_{it} \dots\dots\dots(1)$$

Environmental risk, Financing Strategy and Firm profitability

$$FP (ROA)_{it} = \alpha_0 + \beta_1 BR_{it} + \beta_2 MR_{it} + \beta_3 ER_{it} + \beta_4 DR_{it} + \beta_5 FS_{it} + \mu_{it} \dots\dots\dots(2)$$

Environmental risk, Corporate Strategy, Financing Strategy and Firm Profitability

$$FP (ROA)_{it} = \alpha_0 + \beta_1 BR_{it} + \beta_2 MR_{it} + \beta_3 ER_{it} + \beta_4 SG_{it} + \beta_5 LIQ_{it} + \beta_6 AG_{it} + \beta_7 DR_{it} + \beta_8 FS_{it} + \mu_{it} \dots\dots\dots(3)$$

Methodology

Data was collected from secondary sources such as COMPUSTAT and Stock Exchanges of respective countries for the period 2013-2019. Only six years of data was collected since data before 2013, particularly for Pakistan, India, Indonesia. and Thailand, is mostly missing. The sample consists of 4837 publicly traded firms from seven South-East Asian countries, namely China, India, Malaysia, Pakistan, South Korea, Indonesia and Thailand. The environmental risk was measured by calculating business risk, market risk, and economic risk. The corporate strategies were measured by calculating growth strategy (sales and asset growth) and liquidity strategy (current ratio). Lastly, the financing strategy was measured by calculating debt ratio and lastly, firm profitability was measured by calculating ROA.

Operationalizing Independent and Dependent Variables

The raw data collected from various sources was categorized and operationalized for further analysis. We followed the methodology of Chathoth and Olsen (2007) for operationalizing variable constructs. The operationalization of each variable in the individual construct is given below:

Environmental Risk

Economic Risk (ER)

Economic risk was operationalized through the calculation of slope function. This was done by taking each country's annualized GDP growth rate as the independent variable and annual sales growth of the firm rate as the dependent variable (Chathoth & Olsen, 2005; Chathoth & Olsen, 2007). The beta, that is, β_1 generated through the equation given below represents the covariance between the selected country's GDP growth rate with its respective firm's sales growth rate. It was used as the value for economic risk.

$$\text{Firm Sales Growth} = \beta_0 + \beta_1 \text{Annual GDP growth rate}$$

Business Risk (BR)

The business risk was operationalized through the calculation of slope function. This was done by taking the average cashflow generated from the operations of all firms listed on each country's respective stock exchanges as the independent variable and the operating cashflow of each country's individual firm as the dependent variable (Chathoth & Olsen, 2005; Chathoth & Olsen, 2007). The derived beta, that is, β_1 from the equation given below represents the covariance between individual firms' operating cashflows and the average operating cashflow of all listed firms on each country's respective stock exchanges. It was used as the value for business risk.

$$\text{Firm CashFlow} = \beta_0 + \beta_1 \text{Average Cashflow}$$

Market Risk (MR)

The market risk was operationalized through the calculation of slope function. This was done by taking the average market share price of all firms

listed on each country's respective stock exchanges as the independent variable and the market price of each individual firm's share as the dependent variable (Chathoth & Olsen, [2005](#); Chathoth & Olsen, [2007](#)). The derived beta, that is, β_1 from this estimation represents the covariance between average market price in each country and each individual firm's market share price. It was used the value for market risk.

$$\text{Firm market share price} = \beta_0 + \beta_1 \text{Average market share price}$$

Corporate Strategy

Sales Growth (SG)

Sales growth was operationalized and measured by calculating annual growth in sales of each firm.

Asset Growth (AG)

Asset growth was operationalized and measured by calculating annualized growth in the market value of assets.

Liquidity (CR)

Liquidity was operationalized by calculating the current ratio. The current ratio was calculated by dividing current assets with current liabilities.

Financing Strategy

Debt Ratio (DR)

Debt ratio was operationalized by calculating debt ratio. Debt ratio was calculated by dividing total debt by total assets.

Firm Profitability

Return on Assets (ROA)

ROA used as a measured of firm profitability was operationalized by dividing net income by total assets.

Control Variable

Firm Size (FS)

Firm size was operationalized through the natural log of sales.

The panel regression model was used to measure the effect of independent constructs on the dependent variable. In panel data, we have two common models, namely fixed effects and random effects, that can be used. The decision to use fixed effects or random effects is based on the Hausman test. The results of the Hausman test revealed that the fixed effects model is more suited for this study. Moreover, the fixed model is used to determine the direction and strength of the relationship between independent constructs and dependent variables. However, it should be noted that in this study, the panel regression model is used only for explanatory purposes. It is not used for prediction purposes. The derived coefficients are taken as the result of panel regressions and are used to explain the relationship between constructs and the direction of the relationship. Moreover, each coefficient's magnitude is interpreted only to highlight the strength of the variable and not for explaining the effect of the independent variable on the dependent variable. Lastly, firm size is used as a control variable. The use of firm size as a control variable helped us discern firm size-related effects on the other variables used in this study.

Results and Discussion

Table 1 presents the descriptive statistics of the variables. Mean and median values of business risk are 0.54 and 0.048, respectively; whereas, its standard deviation representing dispersion from mean is 0.027. Mean and median values of economic risk are 0.076 and 0.065, respectively; whereas, its standard deviation is 0.251. Similarly, the mean and median value of market risk is 0.929 and 0.957, respectively; whereas, its standard deviation is 0.526. The mean value of the current ratio is 2.69. It represents a strong liquidity position which is above the benchmark level (2:1), showing that firms have invested more in current assets to ensure liquidity due to uncertainties prevailing in the environment. Furthermore, from the above-given table, we can see that the mean value of asset growth is 20.007, which means that on average, firm assets grew by 20%; whereas, the sales grew at the rate of 15.763%. Both these measures indicated that the economies are growing and there is growth potential. These results encourage firms to formulate and implement effective corporate strategies so firms can exploit these growth opportunities. The mean value of leverage is 32%, which means that on average firms are using 32% of external funds in their

financing mix. Lastly, the average profitability of firms measured through ROA is 14%.

Table 1

Descriptive Statistics

	Mean	Median	Max	Min	Std. Dev.
BR	0.054	0.048	0.198	0.005	0.027
ER	0.076	0.065	6.266	-0.078	0.251
MR	0.929	0.957	2.994	-2.910	0.526
CR	2.695	1.560	93.760	0.010	4.947
LEV	32.982	30.100	329.200	-142.890	26.751
ROA	14.882	12.770	51.820	-53.297	8.453
AG	20.007	4.704	8002.122	-99.964	169.802
SG	15.763	1.906	5163.495	-99.938	157.558
FS	6.592	6.392	11.314	1.041	1.277

Table 2

Correlation Matrix

	ROA	CR	BR	ER	MR	LEV	SG	FS	AG
ROA	1.000								
CR	0.123	1.000							
BR	-0.140	-0.023	1.000						
ER	-0.094	0.015	0.613**	1.000					
MR	-0.014	-0.042	0.180*	0.166	1.000				
LEV	-0.173	-0.419*	0.043	-0.026	0.040	1.000			
SG	0.084	0.000	0.014	-0.029	-0.005	0.020	1.000		
FS	0.100	-0.252	-0.109**	-0.064	-0.020	0.167	-0.049	1.000	
AG	0.094	-0.021	0.060	0.042	0.015	0.041	0.082	-0.045	1.000

*Indicates correlation is significant at 5%

**Indicates correlation is significant at 1%

The above-given table presents the correlation among variables used in this study. All the values are on the lower side so we can safely assume

based on the values of the correlation matrix that multicollinearity is not an issue here.

Regression Analysis

Fixed effects model was used in the study since it aimed to measure the variation in firm profitability caused by independent constructs of environmental risk, corporate strategy, and financing strategy. Independent constructs were introduced incrementally in our estimation in order to confirm that the final model containing all the independent constructs is the best model among others when it comes to reporting maximum variance in firm profitability.

Table 3

Regression Results (Model 1)

Var	Coefficient	S.E	Prob.
C	3.125	0.320	0.000
BR	-0.058	0.061	0.338
ER	-0.065	0.068	0.337
MR	-0.140	0.056	0.012
AG	0.060	0.022	0.007
SG	0.045	0.016	0.006
CR	0.249	0.050	0.000
FS	0.321	0.046	0.000
Adj-R	0.328	F-stat	47.171
		Prob	0.000

Table 3 shows the results from model 1. According to the results, 32.8% variation in firm profitability is caused by environmental risk and corporate strategy. From the above-given table, it is evident that all independent variables except business and economic risk have a strong influence on firm profitability. Additionally, it was determined that measures of environmental risk have a negative impact on ROA, while the corporate strategy has a positive impact on ROA. Studies from (Nandakumar et al., [2011](#); Pulaj et al., [2015](#); Afza & Ahmed, [2017](#)) also found a positive effect of corporate strategy on firm performance. The negative effect of environmental risk on firm performance can be attributed to the increase in

risk and depresses firm profitability. The greater emphasis on environmental risk management may be the cause of the above-mentioned effect. Firms are expected to be socially responsible and should develop and implement strategies that will protect them from environmental risks. Failure to do so will not only affect firm profitability but will also affect the reputation of firms.

Table 4

Regression Results (Model 2)

Var	Coefficient	S.E	Prob.
C	3.834	0.282	0.000
BR	-0.008	0.055	0.884
ER	-0.109	0.054	0.042
MR	-0.163	0.059	0.006
LEV	-0.011	0.002	0.000
FS	0.232	0.042	0.000
		F-stat	58.244
Adj-R	0.369	Prob	0.000

The results of model 2 mentioned in Table 4 indicate that 36.9% variance in firm profitability is caused by environmental risk and the firm's financing choice. Hence, P values of all independent variables except business risk indicated that they significantly affect firm performance. The negative relationship of environmental risks measures and leverage ratio indicated that firm performance declines as the level of risk increases. Studies from (Chang et al., [2018](#); Nguyen & Nguyen, [2020](#); Putri & Rahyuda, [2020](#)) all found a significant negative effect of firm leverage on firm profitability. It was determined that the uncertainty and volatility in the external environment affect the long-term decision-making process of a firm. Such uncertainty can prevent firms from committing themselves to long-term investments that can prove to be profitable. No organization can function to its full potential if the economic environment is uncertain. Similarly, financing decisions by the firms are also badly affected by environmental risk. Thus, an increase in risk leads to an increase in financing cost, which in turn may lead to profitable projects becoming less profitable and risky.

Table 5*Regression Results (Model 3) Co-alignment Model (Simultaneous Effect)*

Var	Coefficient	S.E	Prob.
C	3.580	0.324	0.000
BR	-0.077	0.057	0.178
ER	-0.047	0.065	0.473
MR	-0.146	0.059	0.014
LEV	-0.009	0.002	0.000
AG	0.061	0.023	0.008
SG	0.042	0.015	0.006
CR	0.272	0.052	0.000
FS	0.299	6.758	0.000
		F-stat	45.844
Adj-R	0.485	Prob	0.000

Lastly, we measured the simultaneous effect of independent constructs on firm profitability. Results from Table 5 indicate that the full model is by far the best model among all models since it presents maximum variance in firm profitability caused by the independent constructs. The adj- R-value is 0.485, which means that 48.5% variation in ROA is caused by the independent constructs of environmental risk, financing strategy, and corporate strategy. Other incremental models, namely model 2 and model 1, only explains 36.9% and 32.8% variation in ROA, respectively. Almost all independent variables except business risk and economic risk significantly influence firm profitability. This shows that in environmental risk measures, market risk is a critical factor when determining firm profitability (Amit & Wernerfelt, [1990](#)). One possible explanation for the insignificant impact of business risk and economic risk of firm performance can be that in the last five years, the systematic risk remains significant, due to which firms adopted various risk management strategies to minimize the negative impact of risk on firms. As a result of effective risk management practices, business risk, and economic risk remain insignificant as far as firm performance is concerned. Effective risk management not only reduces the negative impact but it also helps in achieving the financial targets set by the firm (Mohammad & Krapkova, [2016](#)). Moreover, Pezier, ([2002](#)) argued that effective risk management identifies risks and reduces surprises,

leading to a negative yet insignificant impact of risk on firm performance. Mohammad and Krapkova (2016) also found an insignificant impact of risk on firm performance. A stable and conducive economic environment allows firms to make better long-term decisions that will lead to an increase in firm value (Bromiley et al., 2015). The economic environment in emerging economies is not as stable as in developed countries; therefore, economic managers must make policies that will help stabilize the economy. Furthermore, all models of measures of risk, namely business risk, market risk, and economic risk, have a negative effect on firm profitability. This notion supports the argument that an increase in risk causes a decline in profitability since more return will be demanded by financing providers, which would increase the cost of financing (Holder et al., 2016; Gupta & Pathnak, 2018; Gupta & Guha, 2019).

In all models, firm size is significant and positive, which means that in an environment where market risk is high and economic risk is low, small firms perform better than large firms provided that the leverage ratio and liquidity ratios are on the lower side than an average firm. Managers should consider the findings of this study while formulating strategies for the firm. Firm size is an important variable that must be considered while formulating strategies that will determine the future direction of a business. It was also determined that constructs involved with concepts of corporate finance theory and strategic management significantly aid in the understanding of adding value to the firm.

Conclusion

The current study aimed to test the relationship of the independent constructs, namely environmental risk, corporate strategy, and financing strategy, with firm profitability to find out whether the full model containing all independent constructs is a better model than other incremental models that are used to explain variation in firm profitability. The results derived through panel regression analysis not only confirmed the relationship between the independent constructs and firm performance but it also revealed that the simultaneous use of independent constructs in the co-alignment model displays significant variation in return on assets (ROA) as compared to other incremental models.

Theoretical and Practical Implications

The study aimed to test the co-alignment model to determine whether it holds good or not with respect to its impact on firm performance. Olsen et al. (1998) reiterated that co-alignment is needed by firm strategy, structure, and environment so firms are able to value existing resources consistently. The results of the study confirmed this notion and added to the empirical literature on the co-alignment process. As far as practical implications of the study are concerned, this study will help managers in formulating better strategies that are concerned with addressing the dimensions of volatility and uncertainty of the environment as well as resource development for supporting their decisions related to strategy formulation. On the one hand, this study helps in creating awareness among researchers and practitioners, so they can analyze and measure the relationship between the environment of the firm, its structure, and strategy; at the same time, it also provides an opportunity to develop alternative measures that will determine the effects of these constructs in other contexts and firm-specific situations.

Limitations and Future Research

The main limitation of the study is that the sample contains countries from South Asia and the South East Asian region, which are categorized as emerging markets. Future studies should consider firms from developed countries and emerging economies of other regions using the current measures as well as the alternative measures of the independent constructs used in this study to further validate the relationship. This study provides the foundation to further develop key measures that will measure these constructs within the co-alignment model. Additionally, the measures used in this study can be useful in other studies using these constructs. Furthermore, new measures based on the interaction between the firm's cost structure and its macroeconomic environment can be added to the variables used in this study in order to determine the influence of external value drivers of the firm. Lastly, future studies can use other factors to measure the effect of other environmental categories, such as technology and socio-cultural elements

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