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An Analysis of Relationship between Enterprise Risk Management and Economic Value Added

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Abstract

Background: As businesses face increasingly complicated and unpredictable situations, Enterprise Risk Management (ERM) has become increasingly popular. Although the potential for ERM to enhance the performance of an organisation is widely recognised, its precise magnitude continues to pose a challenge.

Purpose: The paper proposes a theoretical model that connects vital ERM components to EVA. Successful ERM practises, according to the model, reduce risks, enhance operational efficiency, and optimise capital allocation, all of which contribute to increased EVA and shareholder value.

Methods: To examine the impact of ERM implementation on the performance of firms as measured by Weighted Average Cost of Capital (WACC) and Net Operating Profit After Tax (NOPAT), the research establishes four regression models. This approach yields insights that can be applied universally and a comprehensive understanding of the mechanisms through which ERM influences EVA.

Results: The results offer positive effect that there is positive relationship between EVA and ERM implementation. According to the findings of the research, the implementation of ERM in Indian businesses significantly reduces the WACC and increases the NOPAT.

Originality/Value: This study makes a substantial contribution to the current corpus of knowledge regarding ERM and performance measurement. The results of this study offer significant insights for businesses aiming to improve their ERM procedures and optimise shareholder value. Furthermore, this study establishes a foundation for subsequent investigations that examine the intricate relationship between ERM and diverse facets of organisational effectiveness.

Keywords: Economic Value Added, Enterprise Risk Management, Shareholder Value, Performance Measurement, Risk Mitigation, Operational Efficiency, Capital Allocation

Introduction

In the contemporary and unpredictable business landscape, ERM has become a pivotal strategic necessity (Anton & Nucu, 2020; Pagach & Warr, 2015). Organisations can ensure their long-term viability, optimise decision-making, and increase operational efficiency through the proactive identification, evaluation, and mitigation of potential risks (Masama et al., 2022; Rao, 2009). Nevertheless, despite the extensive implementation of ERM practises, it continues to be difficult to quantify its effect on organisational performance (Anton & Nucu, 2020; Sax & Andersen, 2019).

The board of directors and administrators of the majority of corporations have recognised the criticality of risk management and have prioritised its implementation within their organisations. Risk management entails the methodical consideration and administration of the potential hazards that an organisation may encounter. The compartment approach has been the conventional method by which organisations handle risks (Beasley et al., 2005). As stated by executives from many organisations, the "silo" approach to enterprise level risk management is ineffective (Shenkir and Walker,

2008). Consequently, scholars introduced a novel approach known as ERM in an effort to enhance shareholder value and manage the portfolio of risks (Nocco & Stulz, 2006; Lai & Azizan, 2010).

Appraisal has increased the significance of EVA as an all-encompassing indicator of shareholder wealth creation (Rappaport, 1999). Accounting for the cost of capital invested, it accurately reflects the genuine economic profit produced by an organisation (Love, 2011). EVA, through its emphasis on the generation of shareholder value, is in accordance with the core aim of every organisation and furnishes a distinct standard against which the efficacy of diverse strategic undertakings can be assessed (Stern & Willett, 2014).

Few studies have looked at how ERM affects a holistic measure of shareholder value like EVA, even though there is a lot of literature on the link between ERM practises and individual KPIs like profitability and cost efficiency (Obalola et al., 2014; Chen et al., 2020). This lack of understanding impedes the capacity of organisations to evaluate the actual economic repercussions of their ERM investments and allocate resources in a corresponding manner.

The aim of this paper is to fill this void by examining the correlation between EVA and ERM implementation. By expanding on prior research and conceptual frameworks, this study presents a theoretical framework that establishes a connection between EVA and critical ERM dimensions (WACC and NOPAT). ERM improves the EVA performance of the organisation through the augmentation of net operating margin and the mitigation of capital structure expenses.

The capital structure of a company is crucial because it guarantees the organization's capacity to satisfy the demands of its shareholders. These requirements are fulfilled via dividend disbursements, debt servicing, and the payment of salaries, among other financial obligations. Additionally, capital structure plays a substantial role in EVA analysis. This study demonstrates that ERM and firm performance enhancement are related in that risk management can enhance NOPAT.

A conceptual framework is proposed that incorporates the ERM implementation model developed by Lai & Azizan (2010). Table 1 lists the fourteen operational components that make up the three parts of the accepted ERM model: structure, governance, and process.

Table: 1 Dimension and Elements of ERM Framework

Dimensions	Elements
Structure	Provide common understanding of the objectives of each ERM initiative
	Provides common terminology and set of standards of risk management
	Identifies key risk indicators (KRIs)
	Integrates risk with key performance indicators (KPIs)
Governance	provides enterprise-wide information about risk
	Enables everyone to understand his/her accountability
	Reduces risk of non-compliance
	Enables tracking costs of compliance
Process	Provides the rigor to identify and select risk responses (i.e. risk-avoidance, reduction, sharing and acceptance)
	Integrates risk with corporate strategic planning
	Integrated across all functions and business units
	Quantifies risk to the greatest extent possible
	ERM strategy is aligned with corporate strategy
	Aligns ERM initiatives to business objectives

Source: (Lai and Azizan, 2010)

Literature Review

The existing body of literature presents a variety of empirical findings and viewpoints regarding the connection between ERM and firm performance. Numerous studies have reached the conclusion that ERM and firm performance are positively correlated.

ERM and Firm Performance

Sharma & Kumar (2010) present evidence for the favourable impact of ERM on firm value as measured by the Tobin's Q ratio in US insurance companies. It is found that a 20% premium over a firm's worth as a result of ERM. Lai (2014) asserts that the adoption of ERM by organisations enables more convenient entry into debt markets, mitigates systematic risks, and consequently reduces the risk premium, thereby enabling a reduction in the firm's cost of capital. Furthermore, when ERM is put into place, the price to earnings ratio of the company's stock goes up because investors are willing to pay more for the stock since they think the risk profile is better.

Organisational performance in respect to EVA is enhanced by ERM when net operating margin increases and capital structure expenses (due to debt and equity charges) decrease. Capital structure is crucial because it guarantees that a business has the means to satisfy the requirements of its shareholders. Other financial obligations, including salary payments, and dividend payments are utilised to fulfil these requirements. Additionally, an important component of EVA analysis is capital structure. Weighted Average Cost of Capital (WACC) and Net Operating Profit after Tax (NOPAT) are the three primary components of EVA. Risk management can increase NOPAT and decrease cost of capital, as demonstrated by this study, which establishes a correlation between ERM and firm performance enhancement.

Net Operating Profit after Tax (NOPAT)

Lai (2014) highlights an additional benefit of ERM implementation, which is the augmentation of enterprise profitability. ERM offers a precise framework for planning, decision making, control design, & implementation. ERM raises the level of risk consciousness within the company, which in turn helps with better strategic and operational decision-making (Nicolas & Walker, 2012). Management is able to achieve strategic objectives, decrease earnings volatility, and increase profitability through improved decision making. ERM increases sales by mitigating the operational risks that businesses encounter. There exists an inverse correlation between these hazards and the firm's derived income. Risk reporting and monitoring can reduce operational risks, allowing the organisation to concentrate on resource allocation, innovation, and the growth of various internal and external activities, all of which contribute to an increase in revenue.

Weighted Average Cost of Capital (WACC)

ARM empowers organisations to enhance the transparency of data pertaining to their risk profile. A company's risk profile delineates the assortment of hazards it is willing to assume. In order to mitigate its cost of capital, a company may distribute precise and reliable information regarding its risk profile to its shareholders. Information that is disclosed accurately is crucial for organisations that have diverse operations, as these organisations are difficult to assess from the outside. The process of disclosing and distributing enhanced information to shareholders serves to mitigate information asymmetries, thereby contributing to the reduction of the firm's cost of capital.

COSO (2004) stated ERM mitigates the overall risk of a company by improving its capital structure and decreasing the volatility of its earnings. Capital structure, as defined by Opoku et al. (2014), comprises the debt and equity financing that an organisation needs in order to fund its assets. In order to create value for the company, risk management techniques primarily aim to lower the cost of capital (Ramly & Rashid, 2010). Agency charges, corporation taxes, and expenditures associated with external finance can all be cut with ERM, argues the literature on value maximisation. Consequently, this will result in a decline in the firm's cost of capital, consequently leading to a reduction in the WACC component of its EVA.

Hypothesis

Based on the above literature following hypothesis are developed:

H1: There is significant effect of ERM implementation on NOPAT of the firms.

H2: There is significant effect of ERM implementation on reducing WACC

Research Framework

The vital components are shown in Figure 1. An ERM implementation framework is a part of the study's overall framework, and it highlights the favourable and statistically significant associations with EVA analysis-measurable company performance. The NOPAT and WACC of the company are the dependent variables in this study, whereas the ERM framework's application is the independent variable.

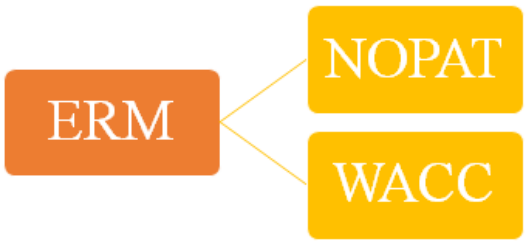

Figure 1: Research Framework

Research Methodology

The research included both primary and secondary sources of information. Email and drop-off surveys were used to collect primary data on the implementation of ERM (the independent variable). Using these strategies, researchers personally delivered questionnaire forms and return address envelopes to respondents' offices. Three dimensions constitute the adopted ERM implementation model: governance, structure, and process. Seven regions comprise the classification of these three dimensions. On a five-point Likert scale, fourteen additional elements that are utilised to operationalize these seven areas and items are assessed.

Population of the Study

Prominent organisations, including public listed companies (PLCs) and multinational corporations, employ ERM (Ghazali & Manab 2013). PLCs are more cognizant, according to Lai et al. (2011), of the need to operationalize risk management programmes in their operations, as opposed to non-listed companies. Consequently, the PLCs in India are designated as the focus of this research.

Results and Discussion

The dynamic of variation in dependent variables affected by an independent variable can be better understood with the use of linear regression analysis. We constructed four regression models to examine the relationship between ERM implementation (the independent variable) and EVA, NOPAT, and WACC (the dependent variables).

Table: 2 Regression Results

Model	Variable	R	R^2	Adjusted R-Square	Std. Error of the Estimate
1	EVA	0.521	0.265	0.253	0.576
2	WACC	0.465	0.215	0.218	0.851
3	NOPAT	0.520	0.271	0.275	0.57

Table 2 shows that the computed R-squared value for EVA is 0.27, which means that 27 percent of the variation in the firms' EVA can be explained by ERM adoption. With an R-squared value of 0.215 for WACC, we can see that ERM accounts for 21.5% of the variation in WACC decrease. The application of ERM can explain 27.1% of the variance in NOPAT, according to the R-squared value of 0.271 for NOPAT.

Table: 3 Coefficient Model

Model	Dependent Variables		Unstandardized Coefficient		Standardized Coefficient	t	Sig.
			B	Std. Error	Beta		
1	EVA	(constant)	1.468	0.354		4.048	0.000
		ERM	0.621	0.085	0.511	6.513	0.000
2	WACC	(constant)	0.725	0.526		1.356	0.163
		ERM	0.816	0.141	0.465	5.866	0.000
3	NOPAT	(constant)	1.41	0.35		3.81	0.000
		ERM	0.64	0.08	0.521	6.71	0.000

The results of the regression model coefficient analysis, as presented in Table 3, reveals that Model 1 exhibited a positive beta coefficient of 0.62, accompanied by a p-value of 0.000 (< 0.05) and a constant value of 1.468. A positive beta coefficient of 0.816 was determined for Model 2, accompanied by a p-value of 0.000 (< 0.05) and a constant value of 0.725. In the same way, a positive beta coefficient of 0.64 was observed for Model 3, accompanied by a constant value of 1.41 and a p-value of 0.000 (< 0.05).

These results indicate that an organization's ERM penetration level increase will inevitably result in improved EVA, NOPAT, ROIC, and a decrease in WACC. The findings align with (Shad & Lai, 2015b); Shad & Lai, 2015c); Lai, 2015) as the implementation of ERM may result in reduced cost of capital and increased shareholder value, both of which inexorably enhance firm performance. Notwithstanding, the R-square value presented in Table 2 is extremely small (less than 30%), indicating that the explanatory variable in the model (ERM implementation) has little impact on firm value.

Conclusion

The aim of the paper was to examine the effect of ERM implementation on the value of Indian PLCs, as measured by EVA analysis. Information was gathered spanning the years 2020 to 2023. Regression analysis is utilised in this study to examine the effects of ERM implementation on EVA and its constituent parts. According to the study's findings, ERM implementation is a significant determinant in increasing the value of a company by increasing NOPAT and decreasing WACC. It has been demonstrated empirically that the relationships are significant. Further, the results indicate that ERM has the most substantial explanatory power for the decrease in WACC and the increase in NOPAT.

These findings provide strongly support for the claims put forth by advocates of ERM (Cole et al., 2013; Altaf, 2016; Patel & Patel, 2012; Naseem et al., 2020). Furthermore, this research supports the efficacy of EVA analysis as a means for an organisation to evaluate the performance of its ERM implementation. Due to the limited availability of comparable and dependable data on ERM implementation, this study may be constrained. Furthermore, it is possible that the results are limited to the sample of businesses examined and cannot be applied to all organisations. Additional investigation is required to examine the enduring consequences of ERM on EVA as well as the intricate relationship between ERM and diverse facets of corporate performance. The importance of ERM implementation in risk management and company

performance evaluation via EVA is greatly enhanced by this study, which adds to the knowledge of practitioners and policymakers.

Further studies may delve into the ramifications of ERM on additional performance metrics, including market value added (MVA) or Tobin's Q, in order to attain a more comprehensive comprehension of its influence on firm performance, as well as the potential moderating or mediating effect of EVA. Furthermore, ERM is examined at a single point in time in the present investigation. Conducting longitudinal studies to examine the enduring effects of ERM on EVA would provide significant insights into the intricate interplay between these two variables. Furthermore, further investigation is warranted to ascertain the precise ERM practises that yield the greatest return on investment (EVA), thereby enabling institutions to better organise their resources and concentrate their efforts.

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