

RELATIONSHIP BETWEEN ENTERPRISE RISK MANAGEMENT AND FIRM PERFORMANCE

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Abstract

Within the Enterprise risk management (ERM) literature, the relationship between ERM and firm performance has been one of the most arguable research areas for the past few decades and the impact of ERM on firm performance is a demanding topic still. The aim of this paper is to perform a systematic review of the ERM approach and its impact on firm performance. The literature review was performed through the ProQuest, Scopus, EBSCO and Web of Science platforms. The time horizon used was 2014–2020. In total, more than 10 000 sources were analysed, in detail 239 sources.

The remaining question is why the studies reviewed reach different conclusions. In the subject of the impact of ERM on firm performance, current literature is not definite. Besides an unequivocal conclusion, the existing literature is also lacking in well-defined relationships between variables. Findings indicate that more empirical research is needed to narrow the current research gap. The paper works with a large number of sources and gives a comprehensive view of the topic. The literature review creates further opportunities and hypotheses for future research.

Key words: Enterprise Risk Management, Firm Performance, Risk Management

JEL Code: G32, L25

Introduction

Enterprise risk management (from now on, ERM), as an opposite approach to Traditional risk management, is still a challenging area. The incentive for change in risk management originated in the Great Recession. This crisis exposed the limitations to Traditional Risk Management (Paape & Spekle, 2012).

The ERM approach is significantly influenced by external factors such as the financial crisis (Bromiley et al., 2015), the development of the international standards COSO Enterprise Risk Management, legislative requirements (Hoyt & Liebenberg, 2011; Pagach & Warr, 2011) and the need to increase competitiveness (Saeidi et al., 2019). Currently, the ERM approach is affected by the SARS-CoV-2 pandemic, a stress test for this approach. Over time, it will be possible to assess the added value of the ERM.

Therefore, ERM approach is theoretically and practically still growing and changing over time. At the formation of the ERM approach, the authors performed analyses with other risk management frameworks such as ISO 27000 standards and formed the ERM approach's definition. The COSO-ERM (2004) is the world comprehensive methodology related to ERM. After initial ambiguities in the ERM definitions, the authors started to identify the drivers and obstacles in implementing the ERM approach. Then, the benefits of the ERM approach were empirically examined. Among all the advantages, increasing the firm's performance (from now on, FP) is the most researched benefit of this approach. The relationship between ERM and FP has been examined for several years, and the number of researchers is still not declining. However, the ERM has been studied for years, the results of the studies are still inconsistent.

This paper is motivated by the inconsistency of results concerning the relationship between ERM and FP. The paper analyzes the empirical studies performed so far on the relationship between ERM and FP. Based on the comprehensive literature review, the authors describe the trends in the ERM field and describe further opportunities for empirical research.

1 Methodology

The systematic literature review has three parts: to identify all the scientific studies published on ERM adoption and its effects; to assess the current state of the academic literature; to propose the directions for future research. A comprehensive literature review was performed on existing empirical studies related to ERM and FP. Only the non-financial sector in the period 2014–2020. The search tools used are the full-text search engines EBSCO and ProQuest and the citation tools Scopus and Web of Science (from now on “WOS”). The relevant keywords for the systematic literature review were used.

Automated deduplication reduced the number of references ($n = 9\ 253$) to a total of 4 016. As the next step, we sorted out the initially obtained references based on the research and exclusion criteria. Other deduplication processes removed irrelevant references based on

name and abstract, leaving a group of $n = 329$ references. These references were thoroughly analyzed (full-text reading) and further filtered. The resulting final group comprised $n = 47$ references.

2 Relationship between ERM and FP

The following factors were monitored in the literature review – assessing ERM, assessing FP, the relationship between ERM and FP.

Based on the provided literature review, the empirical studies show three methods of assessing the ERM approach. First is a quantitative questionnaire survey (inspired mainly by COSO-ERM methodology) (for example: Heong & Teng, 2018; Soltanizadeh et al., 2016). The second is a qualitative survey with semi-structured interviews. The method was more often used at the beginning of the ERM approach. In this case, the studies aimed to provide a profound understanding of ERM implementation and identify the main drivers and obstacles in the ERM implementation through the company. The last methodology of assessing ERM is so-called content analysis. The method consists of a manual or automatic keyword search in publicly published financial statements. The method was initially used to search for the keyword "Chief Risk Officer" as an indicator of ERM implementation in the company. Afterward, the method was transformed into a complex keyword search of a large number of keywords. Based on the presence of keywords, the presence of the ERM is confirmed. After a detailed investigation, the author assumes that the method has significant disadvantages and limitations – varying levels of disclosure across firms and industries. The obligation to publish information regarding risk management is imposed on companies traded on a stock exchange or top-ratings companies in a particular country. Publicly available documents may not contain all the necessary information for other ERM calculations, or the information presented in financial statements may be overestimated. Merely content analysis without other additional methods does not provide researchers enough information for a deeper understanding or evaluation of ERM maturity level.

Financial measures predominate in assessing FP, such as ROA, ROE, EVA, Tobin's Q (the case of Florio & Leoni, 2017). Some studies assessed FP as a combination of financial and non-financial measures, such as innovation and product development, employee satisfaction (Vij, 2019). An essential aspect of FP is the method used to collect data for its calculation. In general, FP can be measured either objectively (data-driven) or subjectively (self-assessment of one or more responsible persons or comparison to a major competitor). An objective measurement is produced by mathematical calculations of FP measures. Studies performing

company analyses collect their data mainly from the companies' financial statements. The common practice of subjective assessment is a questionnaire survey within a company.

The result of studies shows a predominantly positive relationship between ERM and FP (for instance: El-Dalabeeh & ALshbiel, 2020). However, some studies did not show a statistically significant relationship, and studies confirmed an inversely proportional relationship (for instance: Hiebl et al., 2019). The main reasoning of the not statistically significant relationship or negative relationship between ERM and FP is explaining as using dichotomous variables that do not really report how the ERM process is implemented in the company and do not allow the degree of implementation and involvement in ERM to be correctly measured (for instance Otero González et al., 2020). The most commonly used methods for evaluating the relationship between ERM and firm performance are multiple linear regression and Structural Equation Modeling. Given the combination of subjective and objective assessments of the ERM and firm performance, and due to the use of different hypothesis testing methods in different studies, the methodological differences may have affected the significance of the relationship.

Based on a detailed investigation of assessing independent and dependent variables and calculation methods, the author concludes that the relationship cannot be considered direct and one-way. The conclusion that ERM has a direct positive relationship with FP would be simplistic and inaccurate. The ERM implementation is not an isolated approach, and the ERM approach can mediate other firm aspects. The authors argue that the indirect relationship is the cause of the relation between independent variables, ERM, and dependent variables.

Only a few recent studies have considered mediators' and moderators' presence in the relationship between ERM and FP. The mediation variable mediates the relationship between ERM and FP. It is an essential element in assessing the causality of a relationship. Mediators, unlike moderators, usually express variable relationships.

In the study, the positive effect was through mediators. Mediators caused a positive effect, not primarily ERM (Ping Teoh et al., 2017). The other study found that Competitive Advantage partially mediates the relationship between ERM and firm performance (Songling et al., 2018). The finding in the other study indicates that ERM also positively mediates the relationship between BSC and organizational performance and produces a positive impact of ERM and BSC on firm performance (El-Dalabeeh & ALshbiel, 2020). However, initial studies include the role of mediators and moderators in the relationship between the ERM and the FP. All authors agree that further empirical research is necessary. There is no

comprehensive list or set of moderators and mediators that affect a relationship, which increases the literature gap.

Conclusion

The author performed the comprehensive literature review with a time horizon of 2014–2020. In the analyzed studies, we can see the trend in dealing with the relationship between ERM and FP. After the Great Recession, most studies were of qualitative type. The authors sought to understand the ERM approach's functioning and identify the dependent variables affected by the ERM. After that, quantitative research prevailed, which empirically confirmed a primarily positive effect on the firm's performance. The empirical research most often evaluates the correlation of individual ERM metrics (e.g., control environment, assessing risk management, control activities, information, communication, monitoring that links to its objectives) on the dependent variables. Another way to measure the ERM impact on the FP is to calculate the change caused by the ERM approach's transition (comparison of values before ERM implementation and after ERM implementation). The inconsistency of the results of empirical studies inspired the author to evaluate the method of calculating the relationship between ERM and FP.

The ERM area is already sufficiently researched in certain aspects, such as ERM metrics, how to determine the presence of ERM in the company, or assessing the FP metrics. The authors of older empirical research examined the direct influence (for example, Hoyt & Liebenberg, 2011; Soltanizadeh et al., 2016) and did not consider other influencing moderators and mediators influence the relationship. The indirect relationship between the ERM and the FP has not yet been fully explored. New thinking in this area may reveal the latent advantages or disadvantages of the ERM approach.

The ERM approach was initially developed for financial institutions, where the content analysis method was used for the first time. After that, the method spread widely to large non-financial institutions, companies traded on a stock exchange, or top-ratings companies in a particular country. Therefore, there is still an increasing effort to empirically prove the positive effect of ERM in SMEs and family businesses. Empirical research in these areas is exceptional.

Based on the provided literature review, the author supposes the opportunities for further research. Most of the studies evaluated were based on empirical testing of the relationship between ERM and firm performance on a set of listed companies. These are primarily large

and capital-strong companies. There has been an increasing effort to test the relationship between ERM and SMEs (small and medium-sized enterprises) performance in recent years because there is limited evidence about the ERM's effect. SMEs usually have lower budget options for the implementation of a comprehensive risk management approach. One of the disadvantages for SMEs is significant costs related to the implementation ERM approach. However, costs may not be an obstacle to ERM implementation, but the organization may not reach a higher level of ERM maturity, where the benefits outweigh the costs.

The evidence of ERM's implementation in family business shows a lower rate than non-family firms (Hiebl et al., 2019). The ERM approach can be implemented in a family business in the tacit form and unconsciously passed on from generation to generation. Moreover, the above-described method of assessing ERM cannot be used for non-formalized or unconscious use of the ERM approach. Therefore, the company would be inaccurately considered a non-ERM user. At the same time, unique factors in a family business, such as family involvement, are currently unexplored. The theoretical justification of a moderating effect of family involvement is because small and medium-sized family forms can identify a broader range of risks informally in the case of greater family involvement. The informal risk management may decrease the need to implement the ERM approach.

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