The impact of enterprise risk management on financial performance: Evidence from the GCC Islamic banks

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ABSTRACT

Enterprise Risk Management (ERM) is a contemporary trend that has gained momentum in recent years. ERM is a comprehensive approach to risk management that considers both operational and strategic risks that affect business objectives and success. The present research investigates the impact of ERM on the financial performance (FP) of listed Islamic banks in the Gulf Cooperation Council (GCC) countries. This study takes a quantitative approach, employing secondary data collection methods and content analysis. The study analyses a sample of 221 yearly observations from 23 listed Islamic banks in the GCC from 2011–2020. The ERM implementation and FP measures were derived from previous studies. The study discovered that ERM implementation is associated with an increase in accounting performance but not with changes in market performance for Islamic banks. Our study confirms that Islamic banks perform better in the short term after implementing ERM controls but have no impact on long-term value creation. This study provides valuable insight on the benefits of enhancing GCC Islamic banks' ERM implementation decision-making processes. Finally, the empirical findings can assist managers, policymakers, and regulators in improving bank performance by implementing best practices of ERM in GCC Islamic banks and countries with similar socioeconomic environments.

Contribution/Originality: This research provides a new context for Islamic banks in the GCC region to examine the impact of the level of ERM implementation on accounting and market financial performance. This unique context and valuable data contribute to the ongoing scholarly debate in ERM literature.

1. INTRODUCTION

Enterprise risk management is a crucial aspect of business strategy because organizations face a multitude of risks that could affect their financial performance, reputation, and operations. ERM is a holistic approach that includes both operational and strategic risks, as stated by Saeidi et al. (2019). It has gained prominence in recent years due to the increasing complexity of risks and the advancement of the regulatory framework (Lechner & Gatzert, 2018). Unlike conventional risk management techniques, ERM processes are applied strategically across the enterprise to enable organizations to identify, evaluate, and manage risks comprehensively, prioritizing them based on their

potential impact on business objectives (COSO, 2004). This integrated approach allows businesses to effectively manage their portfolio risk and align their risk management framework with their overall strategy.

Previous research has emphasized the significance of implementing ERM. ERM, in particular, is increasingly regarded as a critical factor due to its role in business environments and profitability (Clifford & Smith, 1995; Schroeck, 2002). Effective ERM enhances strategies, lowers risk and increases profitability (Mwelu, Rulangaranga, Watundu, Kaberuka, & Tindiwensi, 2014). ERM improves risk profiles and boosts management confidence (Shad, Lai, Fatt, Klemeš, & Bokhari, 2019). Effective ERM processes also enable managers to anticipate challenges that arise as a result of global economic developments, allowing them to establish suitable long-term strategies to improve organizational performance (Rehman & Anwar, 2019). Agustina and Baroroh (2016) explained that ERM as a mechanism adopted in agency theory is a safeguarding measure against the existing risks that are likely to happen to the principal in the near future. Hence, the agents are mandated to implement ERM as a guide for a firm's operations, which can aid in enhancing its performance. Gordon, Loeb, and Tseng (2009) stated that companies that have implemented ERM outperform those that have not. ERM practices assist in reducing operating costs, effectively exploiting organizational assets, controlling financial fraud, and managing information efficiently (Fakir & Jusoh, 2020; Rehman & Anwar, 2019). In addition, effective ERM improves competitiveness, internal control, and the quality and standards of corporate governance (Lechner & Gatzert, 2018).

The banking industry plays a significant role in a country's economic development (Beck, Demirguc-Kunt, & Levine, 2000; Beck, Demirgüç-Kunt, & Levine, 2010; Levine, 2005; Shen & Lee, 2006) and facilitates economic growth and stability. However, banks are facing increasingly complex risks, making risk management an essential component that must be integrated into day-to-day business practices. Therefore, risk management practices in banks have significant implications for organizational performance, economic growth, and business development (Yahaya, Lamidi, Kutigi, & Ahmed, 2015). During the 2008 global financial crisis, the performance of GCC Islamic banks remained stable, and credit growth was faster than that of conventional banks (Abdulle & Kassim, 2012; Al-Hares, AbuGhazaleh, & El-Galfy, 2013; Al-Khouri & Arouri, 2016; Siraj & Pillai, 2012). The current study pertains to the functioning of Islamic banks within a strictly regulated operational framework that is guided by Shariah principles. These principles prohibit Islamic banks from investing in projects that may have an adverse impact on conventional banks (Hasan & Dridi, 2011). In addition, Islamic principles, such as prohibiting speculation and dishonest transactions, emphasizing risk-sharing, and debt-based contracts backed with real economic transactions, protected Islamic banks from the effects of the global financial crisis (Alqahtani, Mayes, & Brown, 2017; Thorsten Beck, Demirgüç-Kunt, & Merrouche, 2013). However, other studies argue that long-term profitability after the crisis was poor for the GCC Islamic banks, which was consistent with conventional banks (Alqahtani et al., 2017; Thorsten Beck et al., 2013; Olson & Zoubi, 2017). Hasan and Dridi (2011) asserted that poor risk management is to be blamed for the decline in Islamic bank profitability. Notably, the banking sector in the GCC region has undertaken a number of reforms and has issued new regulations in recent years to expand the sector. These reforms include the implementation of corporate governance standards and other regulations pertaining to risk management practices and Basel 3 requirements. Consequently, the evaluation of Islamic institutions in the GCC provides a suitable context for examining the relationship between ERM and financial performance. Ali, Shakri, and Khan (2019) found that the vast majority of ERM research on financial performance was carried out in developed economies and, more specifically, in the context of conventional banks. Therefore, the purpose of this research is to investigate the relationship between ERM practices and financial performance in GCC Islamic banks. To our knowledge, this is the first study to look into the impact of ERM practices on banks' financial performance in this region. This study can help regulators, policymakers, managers, and academics in improving firm performance by focusing their efforts on the effective implementation of ERM within the context of Islamic banks.

The sample used in this study consists of 23 listed Islamic banks in GCC countries. The observations cover the period from 2011 to 2020, resulting in 221 bank-year observations. Islamic banks are used to determine whether there

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is a significant relationship between ERM adoption and financial performance. Regarding ERM, a content analysis is used to gather data from banks' annual reports based on six variables developed by Florio and Leoni (2017). The research also evaluates financial performance using two types of indicators: accounting-based financial performance (ROA and ROE), and market-based financial performance (earnings per share and Tobin's Q). According to the findings, ERM was found to be positively associated with accounting-based performance measured through ROA and ROE. On the other hand, the relationship between ERM and a bank's market financial performance was found to be insignificant. The research indicates that the effectiveness of ERM can enhance performance by mitigating losses and capitalizing on opportunities. However, the lack of positive evidence in the market response of Islamic banks to ERM suggests that providing information to assist the risk management process is insufficient for achieving favorable outcomes. This research adds to the body of knowledge in the ERM literature by offering new empirical information on the effect of ERM practices on financial performance of Islamic banks in the GCC. This research is based on data of Islamic banks within six GCC countries, which differs from previous studies that explored the association between ERM and financial performance of financial institutions and non-financial listed companies (Baxter, Bedard, Hoitash, & Yezegel, 2013; Bohnert, Gatzert, Hoyt, & Lechner, 2019; Lin, Wen, & Yu, 2012). It also extends the discussion about how banks can enhance performance by focusing their tasks on ERM implementation within an Islamic bank context. Thus, our empirical analysis of the GCC's Islamic banks is expected to provide implications for policymakers, regulators, managers, and academicians in developing countries that share a similar socioeconomic environment.

The remainder of the paper is structured as follows: Section 2 comprises a literature review and the hypothesis development; Section 3 explains the methodology; Section 4 summarizes the results; and the final section discusses the conclusion, the study's limitations, and recommendations for future research.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Enterprise Risk Management

The concept of ERM involves a comprehensive strategy employed by managers to identify and assess risks in a systematic and integrated manner across the entire organization. This approach is overseen by the board of directors and aims to align various aspects such as strategy, operations, personnel, technology, and knowledge while effectively managing risks that may impede the attainment of business objectives (Oliveira, Méxas, Meirino, & Drumond, 2019). ERM integrates measures to manage all company hazards together rather than assessing individual issues. It shifts risk management from the "silo" method of handling risks separately within an organization to a more holistic approach (Kleffner, Lee, & McGannon, 2003; Liebenberg & Hoyt, 2003). ERM has been advocated as the optimal risk-management practice (Ballou, Brewer, & Heitger, 2006; Pagach & Warr, 2011). In addition, ERM provides senior management with greater control over an enterprise's risk portfolio, thereby shifting the emphasis from a defensive to a more strategic approach (Liebenberg & Hoyt, 2003). Increasingly, ERM goes beyond compliance to provide a competitive advantage due to its broad scope without focusing on specific regulatory elements (Platt, 2004). ERM systems enable firms to more effectively identify, evaluate, and manage their risk portfolios, resulting in a reasonable guarantee of achieving company goals.

2.2. Enterprise Risk Management (ERM) and Financial Performance (FP)

Previous studies investigating the relationship between ERM and FP relied heavily on agency theory and stakeholder theory. ERM is interpreted as a mechanism that protects against future risks in agency theory (Agustina & Baroroh, 2016). As a result, the agents are in charge of implementing ERM as a strategy to increase profitability. Managers and boards can better manage and monitor their risk portfolios by effectively allocating resources, prioritizing risk management, and mitigating emerging risks by utilizing ERM systems that include advanced risk quantification methods and information technologies (Beasley, Clune, & Hermanson, 2005; Faisal & Hasan, 2020; Gatzert & Martin, 2015). In this way, organizations can improve their risk management practices and protect their

operations, reputation, and financial performance, which improves agent–principal relationships. Moreover, implementing ERM can increase stakeholders' confidence (Shad et al., 2019). Financial institutions including Islamic banks are highly regulated and were among the first sectors to adopt ERM as a risk management system. In addition, Islamic banks face unique risks from their conventional counterparts. It has been argued by Kayed and Hassan (2011) that Islamic and conventional banks use similar risk management processes, since both begin by identifying risks, mitigating them, and controlling exposure to risk. Islamic banks, however, must ensure that all the tools they use, and the framework developed, reflect Shariah requirements. Islamic banks also adhere to a set of rules issued by the Islamic Financial Services Board (IFSB). The use of an ERM system will therefore help Islamic banks manage their risks in a comprehensive manner. Given that ERM reflects how the business's risk portfolio is managed, a connection between ERM and FP may emerge when businesses take proactive steps to protect and advance stakeholder interests. According to empirical evidence, ERM has a significant influence on FP. Most studies from a variety of industries demonstrate that ERM has a substantial positive effect on FP (Annamalah, Raman, Marthandan, & Logeswaran, 2018; Callahan & Soileau, 2017; Florio & Leoni, 2017; Laisasikorn & Rompho, 2014; Lechner & Gatzert, 2018; Malik, Zaman, & Buckby, 2020; Shad & Lai, 2019; Silva, Silva, & Chan, 2019; Soltanizadeh, Rasid, Golshan, & Ismail, 2016; Yakob, BAM, Yakob, & Raziff, 2020; Yang, Ishtiaq, & Anwar, 2018; Zou, Isa, & Rahman, 2019). Similarly, researchers have shown that financial intuitions with strong ERM adoption experience higher levels of FP (Altuntas, Berry-Stölzle, & Cummins, 2021; Bohnert et al., 2019; Farrell & Gallagher, 2015; Grace, Leverty, Phillips, & Shimpi, 2015; Oko & Oko, 2020). In contrast, no relationship between ERM and FP was reported in the study by Glowka, Kallmünzer, and Zehrer (2021) on Austrian SMEs. In a similar vein, ERM had no effect on the performance of listed companies in Indonesia (Sofia & Augustine, 2019). However, based on the above discussion of Islamic banks, this study hypothesizes that ERM is expected to add value to Islamic banks.

H1: There is a positive relationship between ERM and Islamic banks' accounting FP.

H2: There is a positive relationship between ERM and Islamic banks' market FP.

3. METHODOLOGY

3.1. Sample and Data Collection

The GCC is made up of six countries: the Kingdom of Saudi Arabia (KSA), Bahrain, Qatar, Kuwait, the Sultanate of Oman, and the United Arab Emirates (UAE). In this study, Islamic banks in the GCC countries were selected based on the criterion that they were listed on the stock exchange in their respective countries between 2011 and 2020. The data for the study variables came from the banks' websites and Datastream. The study's sample began with 270 observations from Islamic Banks in the GCC, as shown in Table 1. Forty observations pertaining to unlisted banks and nine observations with missing data were excluded from the sample, leaving a final sample of 221 observations.

Table 1. Sample selection procedure.

Sample selection	Yearly observations
Number of observations with Islamic Banks in the GCC	270
(-) Number of observations with unlisted banks	(40)
(-) Number of observations with missing data	(9)
Final total firm-year observations	221

3.2. Variable Measurement

3.2.1. Financial Performance (FP)

Researchers have used various measures to assess financial performance. In line with previous research (Khan & Tariq, 2017; Maqbool & Zameer, 2018; Nollet, Filis, & Mitrokostas, 2016; Oko & Oko, 2020; Srairi, 2015), we measured FP using both market- and accounting-based indicators. The study employs four distinct measures to evaluate the profitability of the sample banks. The study's accounting-based measures are return on assets (ROA) and return on equity (ROE). ROA is widely used to indicate a bank's financial health (Golin & Delhaise, 2013), and ROE

measures a bank's ability to generate a return on its invested capital (Bidhari, Salim, Aisjah, & Java, 2013). Tobin's Q and earnings per share (EPS) are the market-based measures. Tobin's Q assesses investors' perceptions of a bank's current and future market value (Bidhari et al., 2013). The profit contained in each share of common stock is referred to as EPS.

3.2.2. Enterprise Risk Management (ERM)

To measure the effectiveness of the ERM system, this study relied on the measure of ERM used by Florio and Leoni (2017), based on six indicators to evaluate the effectiveness of the risk management system. These measures evaluate the sophistication of ERM based on the capability of risk management (RM) integration and risk assessment (RA) procedures. The RM integration into corporate governance (CG) includes analyzing three variables to determine whether companies have an International Compliance Officer (ICO) or a Chief Risk Officer (CRO), if a risk committee exists (Risk Committee), and how often each committee reports to the board of directors (RC to BoD). Three additional variables are included in analyzing the risk assessment procedure: RA frequency indicates how frequently the assessment will be performed, RA level indicates the level of the assessment for the entire company or a specific business unit, and the RA method specifies the methodology by which the risk will be assessed (qualitative or quantitative). The overall score of ERM sophistication is thus calculated in two steps. First, we consider six binary variables for each ERM component separately, then we calculate a comprehensive score by adding all variables together to evaluate the effectiveness of a firm's ERM system. Table 2 shows the Florio and Leoni (2017) ERM score.

3.2.3. Control Variables

To increase the reliability of the results of this study, several control variables are included. The study includes bank-specific characteristics of bank size, age, and leverage (García-Sánchez & Martínez-Ferrero, 2019; Kabir & Thai, 2017; Maqbool & Zameer, 2018; Naseem, Shahzad, Asim, Rehman, & Nawaz, 2020; Olayinka, Emoarehi, Jonah, & Ame, 2017). Moreover, for corporate governance variables, the size of the risk committee, the number of meetings, and the expertise of the risk committee are included as control variables (Aljughaiman & Salama, 2019; Callahan & Soileau, 2017; Malik et al., 2020). Table 2 shows how the variables in the study were measured.

Table 2. Variables measurements.

Variable	Acronym	Measurement	Source
Dependent variables			
Financial performance			Datastream
Return on assets	ROA	Ratio of net income to the average of total assets.	
Return on equity	ROE	Ratio of net income to shareholders' equity.	
Earnings per share	EPS	Ratio of net income to number of shares.	
Tobin's Q	Tobin's Q	Ratio of the market value of the bank to the book value of total assets.	
Independent variables			
Enterprise risk management	ERM	The comprehensive ERM score is adopted from Florio and Leoni (2017).	Annual reports
1. Chief Risk Officer		A dummy variable that takes on the value of 1 when a Chief Risk Officer (CRO) or Internal Control Risk Officer (ICRO) committee has been assigned by the bank, and a value of 0 otherwise.	
2. Risk committee		A dummy variable that takes a value of 1 when the bank establishes a risk committee or an ICR committee, and a value of 0 otherwise.	
3. Risk committee reports to the Board of Directors		A dummy variable with a value of 1 if the bank's specific risk committee or ICR committee submits periodic reports to the board of directors (BOD) at least twice a year, and a value of 0 otherwise.	
4. Risk assessment		A dummy variable with a value of 1 if the bank	

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Variable	Acronym	Measurement	Source
frequency		performs risk assessments at least twice a year, and a value of 0 otherwise.	
5. Risk assessment level		A dummy variable with a value of 1 if the bank's risk assessment process is performed on a lower level than an overall bank level (i.e., by business unit or function), and 0 otherwise.	
6. Risk assessment method		A dummy variable with a value of 1 if a bank employs both qualitative and quantitative techniques in risk assessment, and a value of 0 otherwise.	
Control variables: Bank size Bank age	Size Age	Natural logarithm of total assets. The number of years since bank establishment.	Datastream and annual reports
Leverage	Lev	Total debt to total assets.	
Board size Risk committee size Risk committee meetings	BOD_size RC_size RC_meetings	The number of board members. The number of risk committee members. The number of risk committee meetings per year.	
Risk committee experts	RC_experts	Percentage of the total number of committee members with professional qualification in accounting, finance, or risk management divided by the total number of risk committee members.	

3.3. Research Models and Estimation Methods

To test the study hypotheses on the relationships between ERM and FP, the study used the following models:

$$ROA_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 Size_{it} + \beta_3 Age_{it} + \beta_4 Lev_{it} + \beta_5 BOD\_Size_{it} + \beta_6 RC\_Size_{it} + \beta_7 RC\_Meetings_{it} + \beta_8 RC\_Experts_{it} + Year_{it} + \varepsilon_{it} \qquad (1)$$

$$ROE_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 Size_{it} + \beta_3 Age_{it} + \beta_4 Lev_{it} + \beta_5 BOD\_Size_{it} + \beta_6 RC\_Size_{it} + \beta_7 RC\_Meetings_{it} + \beta_8 RC\_Experts_{it} + Year_{it} + \varepsilon_{it} \qquad (2)$$

$$EPS_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 Size_{it} + \beta_3 Age_{it} + \beta_4 Lev_{it} + \beta_5 BOD\_Size_{it} + \beta_6 RC\_Size_{it} + \beta_7 RC\_Meetings_{it} + \beta_8 RC\_Experts_{it} + Year_{it} + \varepsilon_{it} \qquad (3)$$

$$TQ_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 Size_{it} + \beta_3 Age_{it} + \beta_4 Lev_{it} + \beta_5 BOD\_Size_{it} + \beta_6 RC\_Size_{it} + \beta_7 RC\_Meetings_{it} + \beta_8 RC\_Experts_{it} + Year_{it} + \varepsilon_{it} \qquad (4)$$

A description of the variables in the model can be found in Table 2. All models have ERM as the primary independent variable. Equations 1 and 2 represent accounting-based FP with ROA and ROE as dependent variables, and Equations 3 and 4 represent market-based FP with EPS and TQ as dependent variables, along with other controlling factors. In accordance with previous research (Alsheikh & Alsheikh, 2023; Nguyen, 2021), the Hausman test was used to determine the best analysis method for each of the four research models, and the result showed that the fixed effects model is the best fit.

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Table 3 provides the descriptive statistics for the variables investigated. The mean values of the accounting-based measures of ROA and ROE are 0.010 and 0.081, respectively. This indicates that the majority of GCC Islamic banks demonstrate effective asset utilization to generate profits. In terms of market-based measures, the earnings per share (EPS) mean is 0.106, and the Tobin's Q mean is 1.057, showing that valuations of Islamic banks' capital are reasonable in the market. Regarding ERM, GCC Islamic banks have a mean value of 3.986, which indicates a moderate level of implementation, with a minimum value of 1 and a maximum value of 6. Findings show a wide range of ERM implementation levels among Islamic banks, consistent with the research by Wirawan, Falah, Kusumadewi,

Adhariani, and Djakman (2020). Table 4 presents the Pearson correlation matrix results for the variables. The correlation coefficients between ERM and ROA, ROE, and EPS are significant and positive, while ERM and Tobin's Q show a positive but insignificant correlation. Additionally, each correlation coefficient between the independent and control variables is less than 0.70. The results indicate that there is no multicollinearity between the variables. The results are also supported by the variance inflation factor (VIF) test results, with VIF values less than 5 for all independent variables, according to Table 5.

Table 3. Descriptive statistics.

Variable	Obs.	Mean	Std. dev.	Min.	Max.	Skew.	Kurt.
ROA	221	0.010	0.010	-0.030	0.024	-1.508	7.075
ROE	221	0.081	0.078	-0.204	0.181	-1.673	6.451
EPS	221	0.106	0.118	-0.039	0.403	1.251	3.574
TQ	221	1.057	0.100	0.860	1.268	0.529	2.594
ERM	221	3.986	1.460	1.000	6.000	-0.451	2.190
Size	221	10.080	0.474	8.820	11.100	-0.233	2.502
Lev	221	7.414	2.773	1.732	17.743	0.982	5.229
Age	221	27.050	15.665	2.000	63.000	0.087	1.789
BOD_ size	221	9.516	2.095	5.000	16.000	0.785	3.906
RC_ size	221	3.403	1.571	0.000	7.000	-0.415	3.750
RC_ meetings	221	3.606	2.350	0.000	10.000	0.124	2.879
RC_ experts	221	0.294	0.258	0.000	1.000	0.341	2.096

Table 4. Correlation matrix.

Variable	ERM	ROA	ROE	EPS	TQ	Size	Lev	Age	BOD_ size	RC_ size	RC_ meetings	RC_ experts
ERM	1.000											
ROA	0.191	1.000										
ROE	0.196	0.877	1.000									
EPS	0.314	0.576	0.529	1.000								
TQ	0.038	0.396	0.364	0.324	1.000							
Size	0.305	0.594	0.578	0.645	0.359	1.000						
Lev	0.221	−0.135	−0.011	−0.126	−0.002	0.171	1.000					
Age	0.166	0.150	0.181	0.306	0.050	0.501	0.228	1.000				
BOD_ size	0.300	0.139	0.150	0.286	0.161	0.245	0.176	0.225	1.000			
RC_ size	0.189	0.122	0.149	0.080	−0.061	0.160	0.223	0.021	0.086	1.000		
RC_ meetings	0.392	0.017	0.030	0.053	−0.013	0.167	0.251	0.140	0.141	0.468	1.000	
RC_ experts	0.123	0.054	0.067	−0.068	0.100	0.201	0.139	0.208	−0.095	0.286	0.412	1.000

Table 5. Variance inflation factor.

Variable	VIF	1/VIF
RC_meetings	1.652	0.605
Size	1.486	0.673
Age	1.447	0.691
RC_size	1.351	0.74
ERM	1.346	0.743
RC_experts	1.338	0.748
BOD_size	1.214	0.824
Lev	1.155	0.866
Mean VIF	1.374	

4.2. Empirical Results

Table 6 shows the regression results for Models 1–4 used to examine ERM's impact on Islamic banks' FP. The F-statistic test indicates overall significance for all four regression models. Based on the R-squared values, ERM explains about 20% of the variance in ROA, 25% of the variance in ROE, 27% of the variance in EPS, and 20% of the variance in Tobin's Q. For the relationship between ERM and accounting-based FP measures, Model 1 shows that ERM has a significant and positive effect on ROA (coefficient = 0.002 at $p < 0.10$). Similarly, Model 2 shows that ERM has a significant positive impact on ROE (coefficient = 0.013 at $p < 0.10$). These findings support H1, which indicates that ERM improves accounting-based FP.

The findings suggest that increasing ERM implementation will boost a bank's profitability and shareholder value. These findings support the expectations regarding profitability, which suggest that high-quality controls provide better oversight of managers' risk-taking behavior and align that behavior with the bank's strategic direction, resulting in increased bank value and performance (Baxter et al., 2013). Several authors have achieved similar results (Callahan & Soileau, 2017; Eckles, Hoyt, & Miller, 2014; Florio & Leoni, 2017; Yang et al., 2018). Researchers have concluded that firms that successfully integrate ERM into their daily practices and strategic activities reduce risk exposure and are able to identify risk dependencies, thereby increasing their performance. In this way, Islamic banks would be able to increase their profits as ERM integration increases. ERM implementation will also enhance shareholder confidence in management (Agustina & Baroroh, 2016), as it creates value for shareholders, thereby creating a competitive advantage by providing transparency regarding risks and returns from various projects as well as developing strategic plans and identifying all risks (Nocco & Stulz, 2022).

On the other hand, regarding the market-based FP measures, Models 3 and 4 in Table 6 indicate that ERM is positively but statistically insignificantly associated with Islamic banks' EPS and TQ. This contradicts H2, which predicted a positive association between ERM and market value. The findings indicate that, statistically, ERM is insufficient to influence the market value of Islamic banks in the GCC region. In general, implementing ERM strategies contributes to short-term performance, but not long-term performance. The results contrast with those found by Lechner and Gatzert (2018) and Silva et al. (2019), who argue that companies with more developed ERM implementation levels perform more effectively by minimizing risk exposure. This could be due to several factors other than ERM influencing market-based measures, such as macroeconomic factors and market conditions, which could overshadow ERM's impact. Further, differences in results may be related to how risk management is executed in Islamic banks. Prior studies have advocated that a successful risk management program not only requires compliance with standards, but also effective integration with a company's internal risk management and governance processes (González, Santomil, & Herrera, 2020; McShane, Nair, & Rustambekov, 2011). Furthermore, different samples and periods could be responsible for the differences in results.

Table 6. The regression results of the relationship between ERM and FP (fixed effects).

Variable	Model 1	Model 2	Model 3	Model 4
	ROA	ROE	EPS	TQ
ERM	0.002*	0.013*	0.004	0.009
	(1.746)	(1.760)	(0.774)	(1.074)
Size	0.011	0.105*	0.106**	–0.067
	(0.819)	(1.753)	(2.111)	(–0.835)
Age	–0.001	–0.009**	–0.001	0.000
	(–1.360)	(–2.811)	(–0.343)	(0.041)
Lev	–0.000	0.003	–0.002	0.002
	(–0.080)	(0.722)	(–0.838)	(0.459)
BOD_size	0.000	–0.002	0.001	0.002
	(0.865)	(–0.639)	(0.473)	(0.456)
RC_size	–0.000	–0.002	0.000	0.005
	(–0.307)	(–0.412)	(0.080)	(0.793)
RC_meetings	–0.001**	–0.005	–0.002	–0.006***
	(–2.122)	(–1.423)	(–0.871)	(–3.881)
RC_experts	0.011**	0.081**	0.021	0.020
	(2.669)	(2.302)	(1.227)	(0.746)
Constant	–0.087	–0.823	–0.970*	1.650**
	(–0.750)	(–1.536)	(–2.048)	(2.435)
Years	Yes	Yes	Yes	Yes
Number of obs.	221	221	221	221
R-squared	0.201	0.246	0.272	0.198
F-statistic	4.74	4.52	5.67	14.61
Prob > F	0.0005	0.0007	0.0001	0.0000

Note: *** $p < .01$, ** $p < .05$, * $p < .1$.

5. CONCLUSION

The aim of this study was to evaluate the impact of ERM on accounting and market performance among listed Islamic banks in the GCC countries from 2011 to 2020. The findings support the general argument that organizations employing ERM as a holistic approach to risk management are more likely to attain higher levels of performance. Specifically, ERM strategy influences the accounting financial performance of Islamic banks, but not its market value performance, indicating that its implication relates more to short-term performance than long-term performance.

The study's findings are useful for policymakers, regulators, and managers of Islamic banks. For policymakers, the findings may aid in the development of targeted policies and programmes to improve the risk management framework for FP enhancement. Furthermore, this study is useful for regulators to continue encouraging Islamic banks to improve their ERM, as it is associated with lower risk and volatility and is more likely to result in increased capital efficiency and a decreased risk of non-compliance with rules and regulations. Such improvements will actively stimulate the growth and sustainable value of the Islamic banks in the GCC region as well as Islamic banks in other developing countries that share a similar socioeconomic environment. For managers of Islamic banks, the findings provide insight into the importance of ERM practices in improving FP by identifying and managing both downside risks (negative threats) and upside risks (business opportunities) (Callahan & Soileau, 2017). Thus, effective ERM integration into corporate strategies may help to create a conducive business setting for improving financial performance. Although the study expands the current literature on ERM in Islamic banking, it is imperative to acknowledge that the research has certain constraints that may be explored in future investigations. The findings could be specific to institutional settings and subject to differences in economic circumstances, cultural principles, accounting regulations, and legal limitations of the GCC countries, as well as the distinctiveness of the Islamic banking industry (Ajili & Bouri, 2018). Thus, future research could replicate the study's methodology in other countries with Islamic banks. Furthermore, the study could be further extended to investigate the association between ERM and FP in other industries to determine the presence of similarities and differences. Finally, future research could also introduce mediating and moderating factors into the model of ERM and Islamic bank financial performance in order to enrich the obtained conclusions.

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