

Enhancing Firm Value through Company Risk Management: The Role of Cost of Capital as Mediation and Stock Beta as Moderation

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Abstract:-

Purpose: This paper aims to investigate the influence of CRM on FV through the CoC and the moderating role of stock beta. **Design/methodology -** We hypothesize that there is a direct effect of CRM on FV and indirect effect through the CoC, and the role of beta stock as a moderator. To test this effect, PLS is used from three FV proxies, namely Tobins' Q, PER, and PBV. The research was conducted at telecommunication firms on the IDX, with an observation period of 2014–2021.

Finding - The result of this study shows that CRM has no effect on tobins'q and stock beta moderates the relationship. Interesting findings from this study, CRM has no effect on the CoS. The CoD and CoS mediate the effect of CRM on FV (PER, PBV, and tobin's q). **Companies that implement CRM are able to reduce the CoD and CoS, which in turn increases the FV. Research implication -** CRM implementation is able to improve the company's risk management so as to increase investor trust so as to reduce CoC. **Originality/value-** Reducing the CoD and the CoS to increase FV by implementing CRM.

JEL : G3

Keywords:- Firm Value, Sustainability.

I. INTRODUCTION

FV is related to investor trust in the company's development in the future and assessing the level of sustainability. Management of the firm must give careful consideration to the significance of FV and the factors that affect it. The implementation of CRM is one strategy for maintaining and increasing the firm's value. The primary goal of implementing CRM is to increase the organization's ability to achieve its objectives. The created and implemented CRM to protect and create value for shareholders. Integration in business activities such as strategic planning, strategic management, and financial dan investment decisions are required for CRM implementation to be beneficial. Consistent monitoring and evaluation are needed so that the implementation of CRM achieves its goals. This is due to the fact that the corporate environment is highly dynamic and industrial development requires businesses to manage a variety of risks.

Indonesia is no exception; throughout the 4.0 industrial revolution, various countries built supporting infrastructure to ensure that they did not fall behind in global development. This will have an impact on the development of supporting businesses. Companies in this industry cannot be isolated

from risk during their development, hence strong risk management is required. Companies should grow swiftly in tandem with changes in the 4.0 industrial revolution. The company's development will increase company value.

This supporting infrastructure company has a critical role in the growth of the 4.0 era. The midst of vital role of these companies, does risk management still play a role in increasing the value of the company? Research results from 65 empirical studies show that CRM increases FV and returns, while reducing the volatility of cash flows and returns (Krause & Tse, 2016). Several research has discovered a positive relationship between CRM and corporate value. (Abdullah et al., 2015; Krause & Tse, 2016; Meskovic & Zaimovic, 2021; Mohd Tahir & Razali, 2011; Olayinka Erin & Aribaba, 2020) and some researchers discover contradictory empirical evidence (Abdullah et al., 2015; Karunaratne, 2017; Sayilir & Farhan, 2016). This increase in FV was also caused by a reduction in the CoC (Shad et al., 2022)(Titisari et al., 2019).

This study investigates the role of CRM in increasing FV as mediated by the Cost of Capital/CoC. The study focused on telecommunication businesses that support company development in the 4.0 era on the IDX from 2014 to 2021.

The novelty of this research is to provide empirical evidence on how the application of CRM to FV with investor trust is reflected in the Cost of Capital. Making a theoretical contribution to the role of each type of company's cost of capital on FV by implementing CRM.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The development of FV is critical to sustainability because it entails investor trust. (Titisari et al., 2019). CRM is an important aspect of FV. A decrease in the CoC is an indication of investor trust which has an impact on increasing FV (Titisari et al., 2019). CRM focuses on the main sources of risk that threaten the FV. It makes no difference whether this risk is managed traditionally or not. (Greg Niehaus, 2017). Several researchers found between CRM and FV a positive relationship (Abdullah et al., 2015; Krause & Tse, 2016; Meskovic & Zaimovic, 2021; Mohd Tahir & Razali, 2011; Olayinka Erin & Aribaba, 2020) although some researchers discover contrary empirical evidence (Abdullah et al., 2015; Karunaratne, 2017; Sayilir & Farhan, 2016). This increase in FV was also caused by a reduction in the CoC (Shad et al., 2022)(Titisari et al., 2019). Results of research on the U.S. insurance industry showing

CRM adoption significantly reduces a company's cost of capital and the benefits of the cost of capital is one of the answers to the question of how CRM can create value (Berry-Stölzle & Xu, 2018).

Research in Malaysia, CRM has positive not significant relationship to FV (Mohd Tahir & Razali, 2011). Furthermore, research with panels in 2008-2017 on the Malaysian Stock Exchange. The study show that increment of implementation level of CRM reduce cost of capital and on increment of FV make a positive impact (Shad et al., 2022).

Research in 2011 on the main market Malaysia Exchange, CRM disclosure with FV has a positive relationship (Abdullah et al., 2015). In contrast to CRM decisions in Croatian firm's. The level or development of the risk management system depends only on the size of the firm and the value of the growth option (Sprčić et al., 2015). Likewise, research on 248 observations from 31 companies registered at BIST from 2008 to 2015 shows that CRM as financial has no effect on FV.(Senol & Süleyman Serdar Karaca, Erdogan, 2017). The results on the Istanbul Stock Exchange, that there seems to be no relationship CRM and FV (Sayilir & Farhan, 2016).

Research on 129 firms on the Colombo Stock Exchange, reveals that companies' risk response strategies on performance have no impact. Monitoring the CRM function had a weak, but not significant, negative impact on company performance (Karunaratne, 2017).

The results of research on 268 non-financial firms on the IDX in 2016-2018 show that CRM have a positive effect on FV (Mottoh & Sutrisno, 2020). According to research conducted on companies (financial sector) in Bosnia and Herzegovina has a more sophisticated risk management methodology. Furthermore, auditor type and organization size were found as important indicators of CRM (Meskovic & Zaimovic, 2021). Risk governance variables have a positive influence on FV, according to research on 50 companies registered in Nigerian financial institutions between 2013 and 2017 (Olayinka Erin & Aribaba, 2020).

The implementation of CRM gives an indirect effect on the FV. We predict that organizations that adopt CRM indirectly through opportunities to secure low-cost financing will be able to increase their FV. The following research model is used to formulate the research hypothesis:

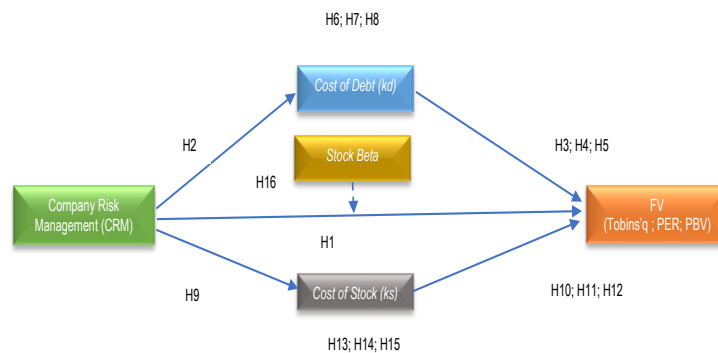


Fig. 1: Research Model

III. RESEARCH METHODS

A. Population and Sample

The population studied in this study is the annual reports of telecommunications companies listed on the IDX. The

sampling method was purposive sampling, with criteria (1) companies listed on the IDX in 2014 to 2021 (2) research data presented with up to 20% missing.

Table 1: Sample Selection Process

Explanation	Total
Total Telecommunication companies registered in 2014 - 2021	13
Total number of companies for which data is lacking, with a maximum of 20% missing data.	(5)
Total companies with missing data up to 20%	8
Total observation	64

B. Definition and variable measurement

➤ **FV**

FV is a description of market opinions or investors' perceptions of a company's ability to manage resources to generate profit. This study measures FV using Tobin's q (Chung & Pruitt, 1994) and sensitivity analysis with PBV and PER. The formula for calculating Tobins'q is:

$$\text{Tobin's } q = (\text{MVE} + \text{DEBT}) / \text{TA} \text{ (Chung \& Pruitt, 1994)}$$

Explanation:
 MVE: Market Value of Equity
 DEBT: Debt book value
 TA: Total Assets

Sensitivity analysis with ratio analysis as a measure of FV associated with stock prices, namely PER (price earning ratio) (PER) and PBV (price book value ratio) (Brigham, 2011).

➤ *Company Risk Management/CRM*

Risk management is the implementation of numerous policies and procedures to mitigate events that reduce the capacity and quality of the company's performance, and to mitigate risks in the technical implementation and business decision-making processes. A dummy variable is used to assess risk management (Pagach & Warr, 2015), where the

use of CRM is measured by “1” if the company uses CRM and “0” if the company does not apply CRM. This metric does not take consider the amount of CRM development; it merely considers whether or not CRM exists.

➤ *Cost of Capital (CoC)*

The cost of capital (CoC) is the weighted average of all individual rates of return (cost) required for funding from debt and equity to fund investment and company operations. CoC in this study consists of Cost of Debt and Cost of stock.

C. Hypothesis Testing method

This study was tested with the PLS analysis tool. The outer and inner model are tested.

IV. CONTENT

A. Descriptive Statistics

Table 2: Descriptive Statistics

	n	Range	Min.	Max.	Mean	Std. Deviation
CRM	60	1.00	1.00	2.00	1.2667	.44595
Beta_sh	51	1.79	.37	2.16	.9112	.35076
kd	63	2.82	.03	2.85	.1643	.35708
ks	60	4.38	-1.00	3.38	.1117	.67517
tobins_q	61	4.00	.00	4.00	1.6557	.81415
PER	58	138.00	-53.00	85.00	16.5517	28.02015
PBV	62	21.00	1.00	22.00	3.7581	3.79683
Valid N (listwise)	43					

The average TQ, PER and PBV is 0.6557; 16.5517 and 3.7581 with high standard deviations (0.81415; 28.02015; and 3.79683). The average ERM is 1 with a relatively low variation of 0.44595. The average kd, ks, and stock beta is 0.1643; 0.1117 and 0.0112 with relatively low variations (standard deviations 0.3507 for stock beta, 0.35708 for kd, and 0.67517 for ks).

B. Hypothesis Testing and Discussion

Test the indicator measurement and inner model presented in Table III and Table IV. The model built in this study consists of 3 (three) models, with the aim of testing the

sensitivity level of measurement of FV. FV is measured by PER, PBV, and Tobin's q. Next will be discussed hypothesis testing.

Table III presents the outer model testing. This study uses a formative indicator measurement model for all variables. Evaluation of feasibility uses 2 (two) criteria, namely weight must be significant with a p-value of less than 0.05 and VIF of less than 5. All variables used in this study fulfill both conditions so it is concluded that formative construct measurements are considered feasible.

Table 3: Variable Measurement

Exp	ERM	kd	ks	Tobins'q	beta	PER	PBV	Type	P-value	VIF
CRM	1	0	0	0	0	0	0	Formative	<0.001	0.000
kd	0	1	0	0	0	0	0	Formative	<0.001	0.000
ks	0	0	1	0	0	0	0	Formative	<0.001	0.000
Tobins'q	0	0	0	1	0	0	0	Formative	<0.001	0.000
beta	0	0	0	0	1	0	0	Formative	<0.001	0.000
PER	0	0	0	0	0	1	0	Formative	<0.001	0.000
PBV	0	0	0	0	0	0	1	Formative	<0.001	0.000

Table 4: Structural Model Analysis

Panel I : Model's Goodness-of-Fit Test		Tobons'q	PER	PBV	Explanation
1	A P C	0,193;	0,193;	0,193;	G o o d
		sig.0,026	sig.0,026	sig.0,026	
2	A R S	0,099;	0,099;	0,099;	G o o d
		sig.0,0104	sig.0,0104	sig.0,0104	
3	A A R S	0,071;	0,071;	0,071;	G o o d
		sig.0,0141	sig.0,0141	sig.0,0141	
4	A V I F	1,118	1,118	1,118	G o o d
5	A F V I F	1,346	1,346	1,346	G o o d
6	G o F	0,314	0,314	0,314	G o o d
7	S P R	0,900	0,900	0,900	Ideal
8	R S C R	0,984	0,984	0,984	Ideal
9	S S R	1,000	1,000	1,000	G o o d
10	N L B C D R	0,650	0,650	0,650	G o o d
Panel II : R² Test					
	Nilai perusahaan	0,35	0,06	0,04	feasible
	kd	0,003	0,003	0,003	feasible
	ks	0,01	0,01	0,01	feasible
Panel III : Predictive Relevance (Q²)					
	kd	0,3695	0,0882	0,0688	relevance
	ks	0,3565	0,0694	0,0496	relevance

Table IV presents the inner model test to ensure that the structural model built is robust and accurate. Panel I presents the model is adequate for explaining the phenomenon being studied and for hypothesis testing. Panel II presents the coefficient of determination (R2), the model FV is 0.35; 0.06, and 0.04. While the R2 cost of debt and cost of stock are 0.003

and 0.01. The value meets the requirements to be passed on to the next process. Panel III presents a structural test of predictive relevance, for kd is 0.3695; 0.0882, and 0.0688 and ks is 0.3565; 0.0694, and 0.0496. Q2 value indicates that the CRM, kd, and ks variables have predictive relevance to the FV because greater than zero.

Table 5: Path Analysis

Hypothesis	Path	Path Coef.	Sign.
H.1	CRM → tobins'q	0,03	0,41
H.2	CRM → kd	-0,16	0,09*
H.3	kd → tobins'q	-0,37	<0,01***
H.4	kd → PER	-0,20	0,04**
H.5	kd → PBV	-0,13	0,15
H.6	CRM → kd → tobins'q	0,208	0,099*
H.7	CRM → kd → PER	0,354	0,046**
H.8	CRM → kd → PBV	0,378	0,039**
H.9	CRM → ks	0,11	0,18
H.10	ks → tobins'q	0,35	<0,01***
H.11	ks → PER	0,12	0,16
H.12	ks → PBV	0,17	0,08**
H.13	CRM → ks → tobins'q	0,028	0,099*
H.14	CRM → ks → PER	0,008	0,046**
H.15	CRM → ks → PBV	0,007	0,039**
H.16	CRM → tobins'q	-0,29	<0,01***

↑
beta saham

In addition, we performed a path analysis which is shown in Table 5. CRM has no influence on tobins'q, according to our H1 test. First, shareholders doubt the quality of the company's CRM implementation, which can ensure the sustainability of the firm's operations to generate profits. As a result, investors believe that the implementation of CRM is not a major component to consider in assessing the company's value. Second, the company has not fully implemented CRM, thus the benefits of increasing company value are not felt.

The H2 test demonstrates that CRM has a negative effect on kd. Companies that implement CRM and disclose it in annual reports may benefit indirectly by raising debt investor trust. This improvement in trust reduces the company's cost of capital while also enhancing the trust of investors in the company's sustainability and investment security. According to this opinion, the corporation must be responsible to all stakeholders by managing risk.

The **H3** and **H4** tests reveal that *kd* has a negative effect on *tobins'q* and *PER*. **H5** demonstrates that *kd* has no effect on *PBV*. The reduction in the *CoD* increases the trust of debt investors, enhancing the value of the company as proxied by *Tobin'sq* and *PER*. Where this value reflects investor response. Mean while, the decline of *CoD* has no effect on *PBV*, which is often the book value of enterprises whose calculations are based on historical cost. FurthCRMore, the **H9** test demonstrates that *CRM* has no influence on *ks*. This shows that stock investors are less concerned with the company's *CRM* activities. Stock investors are inclined to focus on the company's operating profit, which is a source of revenue for them. **H10** and **H12** tests demonstrate that *ks* has a positive effect on *PBV* and *tobin'sq*. A rise in *ks* raises the *PER* and *tobin's q*. This emphasizes the fact that stock investors are inclined to focus solely on their portion of a company's operating earnings. **H11** indicates that *ks* has no effect on *PER*. The stock price has no effect on *PER* since stock investors focus only about their part of the company's profits.

Moreover, testing **H6**, **H7**, and **H8** demonstrates that *kd* mediates the effect of *CRM* on *FV* (*PER*, *tobin'sq*, and *PBV*). Similarly, the **H13**, **H14**, and **H15** tests demonstrate that *ks* mediates the effect of *CRM* on *FV*. Increased *CRM* reduced the *CoD* and *CoS*. Furthermore, the reduction in the *CoD* and *CoS* can increase *tobin'sq*, *PER*, and *PBV*. The explanation for this result is consistent with the notion that management always keeps the *CoD* and the *CoS* as determinants of company value low. *CRM* is a corporate strategy for accomplishing this goal. *CRM* implementation improves the company's operational risk management and provides optimal decisions. This will improve the company's efficiency. Implementing *CRM* is also a form of corporate responsibility to stakeholders in *tCRMs* of ensuring operational sustainability in order to produce profits.

FurthCRMore, it can increase debt investors' trust and generate positive references, allowing companies to obtain low-cost finance from creditors. *CRM* promotes organizations to earn a higher rate of return than their cost of capital, hence enhancing the firm's value.

The results of this study provide theoretical implications, low *CoD* and *CoS* can be achieved by companies with *CRM* implementation. This implies that implementing *CRM* is critical for companies to increase their value by reducing their debt and stock costs. This study focuses on improving the value of a firm from the standpoint of debt and stock costs, particularly in the context of Indonesian public companies. Against agency theory, the implementation of *CRM* which increases investor confidence in the management of company funds. This increase in trust will reducing the cost of debt and stock and enhancing the company's value. Furthermore, it has implications for stakeholder theory in explaining the phenomenon of corporate value, including increasing the explanation of corporate responsibility to achieve sustainable development. The company's *CRM* implementation ensures the company's sustainability, decreases investment risk, and promotes investor trust, lowering the company's cost of debt and cost of stock and enhancing the *FV*.

Testing in moderating effect of stock beta on the effect of *CRM* on *tobins'q* shows that stock beta weakens the variable relationship. This implies that the higher the company risk, the weaker the influence of *CRM* on *Tobins'q*. When the company's systematic risk is high, *CRM* implementation won't be weaker in response to investors. Investors will typically make reasonable decisions when making their investments. The sustainability of the company and the security of the investment are unquestionably the most crucial factors in investing.

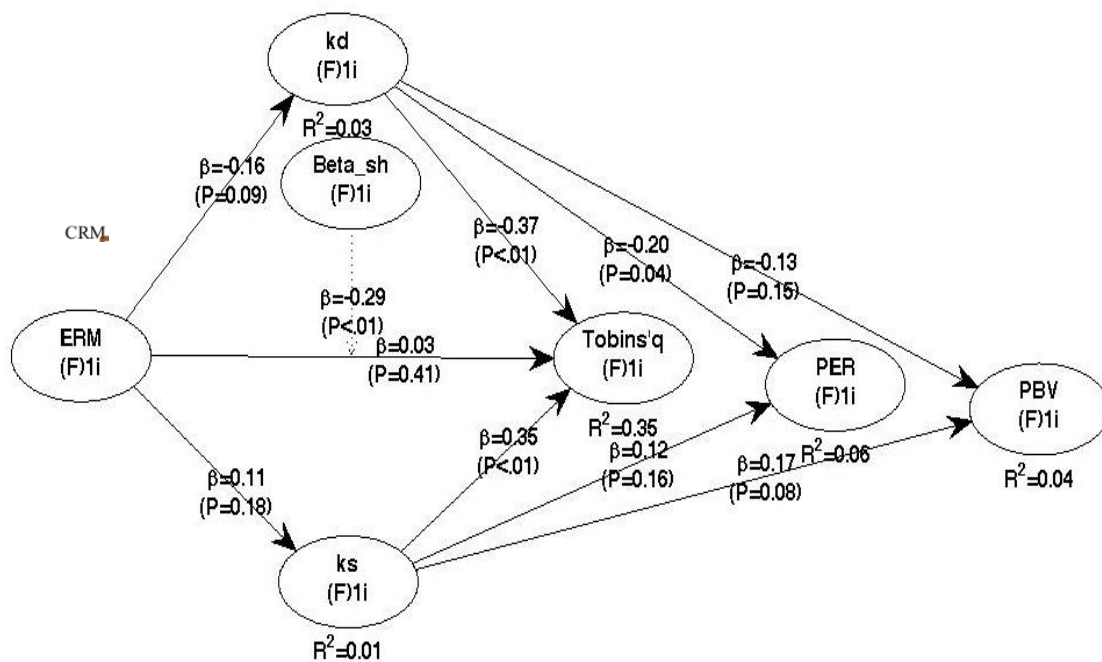


Fig. 2: Research Model Analysis

V. CONCLUSION

This research investigates the effect of CRM on FV. We predict that *cost of debt* and *cost of stock* act as mediating variable in this relationship. Tobin's q, PER, and PBV are used in hypothesis testing as proxies for FV. CRM had no effect on Tobin's q and stock beta moderated the relationship. An interesting finding from this study is that CRM has no effect on CoS. CoD and CoS mediate the effect of CRM on FV (Tobin's q, PER, and PBV). Companies that implement CRM are able to mitigate the CoD and CoS, which in turn increases the FV.

Implementing CRM can help a firm manage risk better, which will increase investor trust in how the company will handle its funds and run its business to generate profit. Investor trust gives the company the chance to find inexpensive finance sources and lower their cost of capital.

REFERENCES

- [1.] Abdullah, M., Shukor, Z. A., Mohamed, Z. M., & Ahmad, A. (2015). Risk management disclosure: A study on the effect of voluntary risk management disclosure toward FV. *Journal of Applied Accounting Research*, 16(3), 400–432. <https://doi.org/10.1108/JAAR-10-2014-0106>
- [2.] Berry-Stölzle, T. R., & Xu, J. (2018). Enterprise Risk Management and the Cost of Capital. *The Journal of Risk and Insurance*, 85(1), 159–201. <https://www.jstor.org/stable/26482904>
- [3.] Brigham, E. F. (2011). *IntCRMediate Financial Management* (9 (ed.)). Thomson Higher Education.
- [4.] Chung, K. H., & Pruitt, S. W. (1994). A Simple Approximation of Tobin's Q. *Financial Management*, 23(3), 70–74. <https://doi.org/Retrieved from https://www.jstor.org/stable/3665623>
- [5.] Ghozali, I., & Latan, H. (2014). *Partial Least Squares : Konsep, Metode dan Aplikasi*. Fakultas Ekonomika dan Bisnis Universitas Diponegoro.
- [6.] Greg Niehaus. (2017). The Palgrave handbook of unconventional risk transfer. In *The Palgrave Handbook of Unconventional Risk Transfer*. <https://doi.org/10.1007/978-3-319-59297-8>
- [7.] Ismail, T. H., & Obiedallah, Y. R. (2022). Firm performance and cost of equity capital: the moderating role of narrative risk disclosure quality in Egypt. *Future Business Journal*, 8(1). <https://doi.org/10.1186/s43093-022-00156-2>
- [8.] Karunaratne, A. H. G. K. (2017). The Impact of the Adoption of Enterprise Risk Management on the Industrial Financial Performance.pdf. *International Journal of Research in Business and Social Science*, 6(6), 09–20. <https://doi.org/10.20525/ijrbs.v6i6.815>
- [9.] Krause, T. A., & Tse, Y. (2016). Risk management and FV: recent theory and evidence. *International Journal of Accounting & Information Management*, 24(1), 56–81. <https://doi.org/10.1108/IJAIM-05-2015-0027>
- [10.] Meskovic, M. N., & Zaimovic, A. (2021). Risk Management Maturity, its Determinants and Impact on FV: Empirical Evidence from Joint-Stock Companies in Bosnia and Herzegovina. *South East European Journal of Economics and Business*, 16(2), 132–149. <https://doi.org/10.2478/jeb-2021-0019>
- [11.] Mohd Tahir, I., & Razali, A. R. (2011). The Relationship Between Enterprise Risk Management (CRM) and FV: Evidence From Malaysian Public Listed Companies. *International Journal of Economics and Management Sciences*, 1(2), 32–41.
- [12.] Mottoh, D. D., & Sutrisno, P. (2020). The Impact of Enterprise Risk Management, Earnings Volatility, Firm Characteristics to FV. *International Journal of Business, Economics and Law*, 23(1), 181–191.
- [13.] Olayinka Erin, & Aribaba, F. (2020). Risk governance and FV: exploring the hierarchical regression method. *Afro-Asian Journal of Finance and Accounting*, 11(1).
- [14.] Pagach, D., & Warr, R. (2015). The effects of enterprise risk management on firm performance. *The Effects of Enterprise Risk Management on Firm Performance*, April, 361–373. <https://doi.org/10.4324/9781315780931-35>
- [15.] Sayilir, Ö., & Farhan, M. (2016). Enterprise Risk Management and Its Effect on FV in Turkey. *Journal of Management Research*, 8(4), 86. <https://doi.org/10.5296/jmr.v9i1.10124>
- [16.] Senol, Z., & Süleyman Serdar Karaca, Erdogan, S. (2017). “The Effects Of Financial Risk Management On Firm’S Value: An Empirical Evidence From Borsa Istanbul Stock Exchange,” *Studii Financiare (Financial Studies)*, Centre of Financial and Monetary Research “Victor Slavescu,” 21(4), 27–45.
- [17.] Shad, M. K., Lai, F. W., Shamim, A., McShane, M., & Zahid, S. M. (2022). The Relationship Between Enterprise Risk Management and Cost of Capital. *Asian Academy of Management Journal*, 27(1), 79–103. <https://doi.org/10.21315/aamj2022.27.1.4>
- [18.] Sprčić, D. M., Kožul, A., & Pecina, E. (2015). State and Perspectives of Enterprise Risk Management System Development - The Case of Croatian Companies. *Procedia Economics and Finance*, 30(15), 768–779. [https://doi.org/10.1016/s2212-5671\(15\)01326-x](https://doi.org/10.1016/s2212-5671(15)01326-x)
- [19.] Titisari, K. H., Moeljadi, Indrawati, N. K., & Kusumastuti, R. (2019). The roles of cost of capital, corporate governance, and corporate social responsibility in improving FV: evidence from Indonesia. *Investment Management and Financial Innovations*, 16(4), 28–36. [https://doi.org/10.21511/imfi.16\(4\).2019.03](https://doi.org/10.21511/imfi.16(4).2019.03)