

Conference Paper

Does intellectual capital affect firm performance through financial policy?

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Abstract.

This study aims to examine the role of financial policies in the influence of intellectual capital on company performance conducted on 14 pharmaceutical companies listed on the Indonesia Stock Exchange. The data obtained is processed using warp pls software 7.0. The results show that intellectual capital has a negative and significant effect on financial policy, while intellectual capital has a significant positive effect on company performance. Furthermore, the financial policy has a significant positive effect on company performance.

Keywords: Intellectual capital, financial policy, firm performance

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Published 21 December 2022

Publishing services provided by
Knowledge E

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Selection and Peer-review under the responsibility of the ICESRE Conference Committee.

1. Introduction

Firm performance is defined as a measure of the success of firm management in achieving set goals, often referred to as good or indifferent management measures [1]. [2] found that firm performance is the end result of business activity achieved by economic agents over a specific period of time. Measuring firm performance can be viewed from her two perspectives: financial and non-financial. From a financial perspective, a firm performance can be viewed in terms of profitability and can represent a firm's profits over a period of time [2]. According to [3] in measuring the firm financial performance, it can be known through two sides, namely the firm internal side by looking at the financial statements and the firm external side, namely the firm value by calculating the firm financial performance. This includes the firm performance, especially from a financial perspective, so it is important to observe as a picture of the success of a firm. One of the interesting industries to observe and study in the midst of the Covid-19 outbreak is the pharmaceutical industry in Indonesia.

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The chemical, pharmaceutical, and traditional medicine industries actually accelerated during the Covid-19 pandemic. The demand for medicines, especially vaccines and traditional medicines to maintain a healthy body during the pandemic, has made this industry actually reach its highest level in the last 9 years. The Central Statistics Agency (BPS) reports that the domestic product (GDP) of the chemical, pharmaceutical and traditional medicine sub-sectors at current prices (ADHB) will reach Rp. 339.18 trillion in 2021. This value accounts for 11.51% of the GDP of the national non-oil and gas processing industry, which reached Rp. 2.95 quadrillion. If measured by GDP at constant prices (ADHK) 2010, the chemical, pharmaceutical and traditional medicine industries grew 9.61% to Rp233.87 trillion last year compared to the previous year. The achievements of the chemical, pharmaceutical and traditional medicine sectors were better than the previous year which only grew 9.3%, and above the national GDP growth of 3.69%. This sector growth is the highest since 2013. The improvement in this achievement is in line with public consumption expenditure for health and education which also grew 1.7% last year.

Data on the value and GDP growth of the chemical, pharmaceutical and traditional medicine industries which have improved in the last 10 years do not go hand in hand with Indonesia's economic conditions during the Covid 19 pandemic. Companies listed on the Indonesia Stock Exchange, are not necessarily able to support the Indonesian economy during the Covid-19 pandemic. The Covid-19 pandemic has had a significant impact on the health, economy, and social structure, thus bringing challenges to the implementation of firm activities to be able to maintain sustainability. In any condition, the firm must still be able to improve the firm welfare and be able to improve the firm financial performance [4], [5]. Several factors that affect the firm performance are financial policy, corporate governance and intellectual capital.

According to agency theory, to overcome the problem of misalignment of interests between agents and principals, one of them is through Good Corporate Governance or good firm management [6]. [7] proves that corporate governance has a significant influence on firm performance. On the other hand, [8] stated that corporate governance has an insignificant effect on firm performance. Furthermore, in increasing competitiveness, companies must make changes to the way they do business. Business changes from business processes based on labor (labor-based business) to knowledge-based business. Companies that apply knowledge-based business are able to create a way of managing knowledge as a means to earn firm income. With the application of knowledge-based business, it is expected that the firm performance will increase.

The firm competitive ability is not only on ownership of tangible assets, but more on intangible assets on innovation, organisational management, skills and resources it has. One approach to the valuation of knowledge assets is intellectual capital (IC). Intellectual capital has become the focus of attention in various fields, both financial management, information technology, sociology and accounting [9]. Intellectual capital can be viewed as knowledge in the formation, intellectual property and experience that can be used to create wealth [10], [11]. [12] proves that intellectual capital has a significant influence on firm performance.

The policies taken in a business with good governance and with the intellectual ability of its human resources to be able to carry out a combination of good financial policies. Optimal Financing Policy theory explains the importance of having an optimal funding policy so that companies do not experience financial problems due to too much debt [13]–[15]. [16] shows that financial policy has a significant effect on financial performance. On the other hand, [17] proves that financial policy has no significant effect on financial performance. Based on the phenomena and research results that have been described previously, this article will explain the importance of financial policy as a mediation between corporate governance and intellectual capital on firm performance in pharmaceutical companies listed on the Indonesia Stock Exchange.

2. Literatur review

2.1. Intellectual capital and firm performance: Signalling Theory

Intellectual capital is generally intangible, this capital is becoming widely accepted as a major strategic asset of companies capable of generating sustainable competitive advantage and superior financial performance [18]. Human resources depend on employees, such as competence, commitment, motivation and employee loyalty. Although human capital is recognized as the heart of intellectual capital creation, a distinctive feature of human capital is that it can disappear when employees leave [11], [19]. Many researchers have begun to pay more attention to the impact of Intellectual Capital on the firm's sustainable competitive advantage and superior firm performance [20]. [21] defines intellectual capital, namely: (1) Intellectual capital is fully the things that are known and given by individuals to companies that generate competitive advantage. (2) Intellectual capital is intellectual material such as knowledge, information, intellectual property rights, and experience that creates property.

Intellectual Capital Disclosure is the disclosure or reporting of the firm's intellectual capital, the disclosure of Intellectual Capital is a signal that the firm has high performance and a good future so that Intellectual Capital disclosure has the potential to have an influence on Firm Performance [11]. Intellectual Capital can be measured in two indicators, namely internal and external capital. Intellectual Capital is more important than financial capital, because it affects organisational performance structurally. From the literature review, it was observed that the empirical evidence is inconclusive and far from reaching a solid scientific consensus. For example, several studies [22]–[26] confirmed a positive and significant relationship between Intellectual efficiency Capital and financial performance of the firm. This empirical result shows that investors value companies that have better Intellectual Capital efficiency; and companies with better Intellectual Capital efficiency gain higher levels of performance.

In essence, knowledge workers play a role in increasing productivity and thus, making a tremendous impact on firm performance by reducing costs, increasing product reliability and creating customer value [27]. [28]–[32] with a sample of 58 US Fortune 500 companies confirmed that intellectual capital contributes to unit performance (measured in profit terms) through unit ambidexterity. Another recent study examined how operational performance affects organisational financial performance with a sample of 30 Major League Baseball organisations [33]. Therefore, firms should consider Intellectual Capital as an important asset and pay serious attention to management issues to enhance their competitiveness and achieve superior performance in terms of value creation. Signalling theory states that companies should signal their superiority in the market, this signal will make investors and stakeholders assess and then make decisions that are more profitable for the firm [10].

2.2. Hypothesis 1: Intellectual capital has an effect on firm performance

Meanwhile, signalling is the meaning of firm conditions based on the perspective of people outside the firm. Signals from the firm will be analysed further by analysts before investors make a decision to sell or buy a firm stock. If there is a positive signal, investors will be interested in buying firm shares, so that the market value will increase; On the other hand, if the information is negative, investors will choose to release shares of a firm [34].

High investment opportunities if released into real growth will be a positive signal for the market which in turn can improve the firm performance. [35], [36] explain the influence of intellectual capital on financial policy in a firm. [37] conclude that the information obtained from financial statements is relevant for investors in making decisions and can explain the size of the stock market. Thus, the ratios derived from financial statements have a significant relationship with stock market indicators. While [35] examined the impact of intellectual capital levels on six major financial and governance policies using two UK cross-sectional samples. The results show that intellectual capital has a significant negative effect on debt and dividend payments.

Companies that have high quality generally pay higher dividends. Therefore, it is important to have intellectual capital for firm managers to formulate financial policies that benefit the firm and investors. [16], [36], [38] show that Intellectual Capital has a positive effect on financial policy

2.3. Hypothesis 2: Intellectual capital has an effect on financial policy

Evaluating the firm's financial performance is important to identify successes, confirm the known and predict the unknown, monitor progress, understand the nature of processes and related problems, set new goals and targets, design future actions to be taken, and prioritise goals [39], [40]. In this context, several studies focus on business performance [41]. The relationship between financial policy and corporate financial performance has been a widely debated topic. [17] prove that financial policy has a positive and significant effect on firm performance. Furthermore, Optimal Financing Policy or Optimal Capital Structure theory explains the importance of having an optimal funding policy so that companies do not experience financial problems due to too much debt to improve firm performance [13]–[15]

If the firm is in a low profit or even loss condition, it is better for the proportion of funding through equity to be higher because if it does not have cash flow, dividends can be postponed or not paid. In other words, the firm is in a favourable condition, funding using debt will be more effective because the amount of interest does not increase following profits as dividends. Therefore, financial policy is expected to be able to improve firm performance.

2.4. Hypothesis 3: Financial Policy has an effect on Firm Performance

3. Method

This study uses a descriptive research approach with quantitative research. In accordance with the research objectives, this research approach is explorative descriptive, namely research by conducting and providing a description of the symptoms and phenomena that occur in the field [42]. However, this research is also directed at explaining the effect between variables (explanatory) by conducting a hypothesis test. The unit of analysis of this study is a pharmaceutical firm listed on the Indonesia Stock Exchange. The population is a generalisation area consisting of objects/subjects that have certain qualities and characteristics set by the researcher to be studied and then draw conclusions [42]. The population in this study were 23 pharmaceutical companies listed on the Indonesia Stock Exchange.

The determination of the sample in this study was based on the non-probability sampling method with purposive sampling technique, namely the sample was selected with the following considerations or criteria: (1) Health Sector Companies listed on the Indonesia Stock Exchange in 2017-2021; (2) The company publishes annual reports and financial reports for 5 consecutive years in rupiah currency; (3) The company has complete data related to the variables used in the study. Based on these criteria, 14 companies were obtained that were appropriate to be the research sample. The secondary data obtained was processed using PLS software developed at the University of Hamburg Germany which was named Warp PLS 7.0. The concept model of this research can be seen in Figure 2 below:

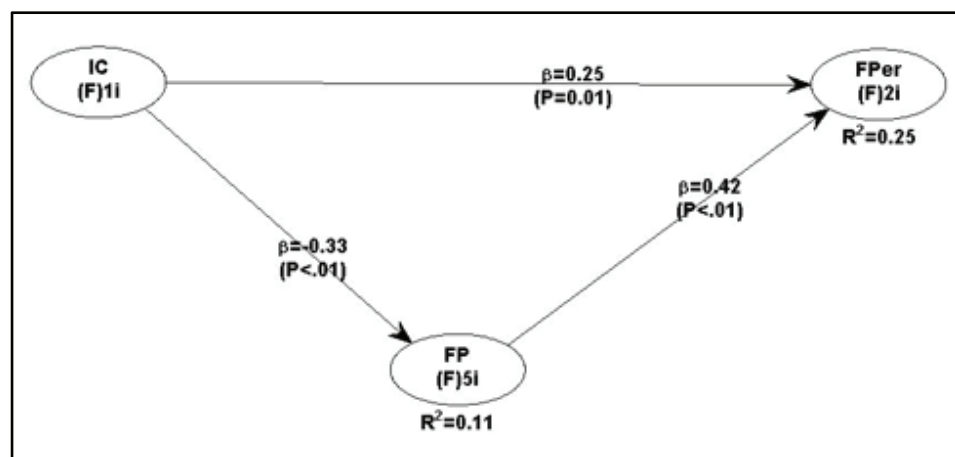


Figure 1: Research Concept Model.

4. Result and Discussion

This study will show the results of PLS warp data processing in the form of outer and inner models. Where the inner model is to see the validity of the indicators for each variable and the inner model is to see the results of the research hypothesis testing. Testing the validity of formative variable indicators can be seen from the weight estimate and Indicator Variance Inflation Factor (VIF). In the weight estimate test, the indicator is declared valid if it has a P Value <0.05. This can be seen in the following table of weight estimate test results:

TABLE 1: Test Results of weight estimate.

Variable	Indicator	Formative	SE	P value
<i>Intellectual Capital</i>	<i>Inside and outside capital</i>	1.000	0.086	<0.001
<i>Financial Policy</i>	<i>NUBE</i>	-0.434	0.104	<0.001
	<i>NPUE</i>	-0.356	0.106	<0.001
	<i>DPR</i>	0.487	0.102	<0.001
	<i>DPS</i>	0.331	0.107	0.001
	<i>MBE</i>	-0.008	0.119	0.472
<i>Firm Performance</i>	<i>ROA</i>	0.512	0.101	<0.001
	<i>ROE</i>	0.512	0.101	<0.001

Source: Data Processed by Researchers, 2022.

Based on the table above, it can be seen that all indicators of this research, namely Corporate Governance (CG), Intellectual Capital (IC), and Firm Performance (FPer) variables produce P value < 0.001, with probability < alpha (5%). Thus, all of these indicators are declared valid to measure the variables of Corporate Governance (CG), Intellectual Capital (IC), and Firm Performance (FPer). While the indicator in the Financial Policy (FP) variable, there is one indicator that produces a P value of 0.472 meaning probability < alpha (5%), namely the MBE indicator, meaning that the indicator is not valid. Meanwhile, the four indicators in the Financial Policy (FP) variable produce a P value < 0.001, meaning probability < alpha (5%). Thus, all of these indicators are declared valid in measuring the Financial Policy (FP) variable.

Meanwhile, in the Indicator Variance Inflation Factor (VIF) test, the indicator is declared valid if it has a VIF smaller than 10. This can be seen in the following table of the Indicator Variance Inflation Factor (VIF) test results:

Based on the table above, it can be seen that all indicators on the variables of Corporate Governance (CG), Intellectual Capital (IC), Financial Policy (FP) and Firm Performance (FPer) produce a smaller VIF value of 10. This indicates that there is

TABLE 2: Test Results of the Variance Inflation Factor (VIF) Indicator.

Variable	Indicator	Formative	SE	VIF
Intellectual Capital	Inside and outside capital	1.000	0.086	0.000
	Financial Policy			
	NUBE	-0.434	0.104	1.113
	NPUE	-0.356	0.106	1.049
	DPR	0.487	0.102	1.149
	DPS	0.331	0.107	1.040
	MBE	-0.008	0.119	1.013
Firm Performance	ROA	0.512	0.101	5.710
	ROE	0.512	0.101	5.710

Source: Data Processed by Researchers, 2022.

no multicollinearity between indicators. which measures Corporate Governance (CG), Intellectual Capital (IC), Financial Policy (FP) and Firm Performance (FPer).

Goodness of fit Model is used to determine the ability of exogenous variables to explain the diversity of endogenous variables, or in other words to determine the magnitude of the contribution of exogenous variables to endogenous variables. Goodness of fit Model in PLS analysis is carried out using the coefficient of determination (R-Square) and Q-Square predictive relevance (Q²). The results of the Goodness of fit Model that have been summarized in the following table:

TABLE 3: Results of Goodness of Fit Model.

NO	Endogen	R Squared	Q Squared
1	Financial Policy	0.107	0.124
2	Firm Performance	0.249	0.252

Source: Data Processed by Researchers, 2022.

The R-square of the Financial Policy variable is 0.107 or 10.7%. This can indicate that the Financial Policy variable can be explained by the Intellectual Capital variables of 10.7%, or in other words the contribution of the Corporate Governance and Intellectual Capital variables to the Financial Policy variable is 10.7%, while the remaining 89.3% is the contribution of other factors that not discussed in this study. Then the Q-square of the Financial Policy variable is 0.124. This shows that the Intellectual Capital variables have a fairly strong predictive power on the Financial Policy variable.

The R-square of the Firm Performance variable is 0.249 or 24.9%. This can indicate that the Firm Performance variable can be explained by the Intellectual Capital and Financial Policy variables of 24.9%, or in other words the contribution of the Intellectual Capital and Financial Policy variables to the Firm Performance variable is 24.9%, while the rest of 75.1% is the contribution of other factors that are not discussed in this study.

Then the Q-Square Firm Performance variable is worth 0.252. This shows that the Intellectual Capital and Financial Policy variables have a fairly strong predictive power on the Firm Performance variable.

The results of testing the direct effect hypothesis are used to test whether there is a direct effect of exogenous variables on endogenous variables. The test criteria state that if the p-value level of significance (alpha = 5%) then it is stated that there is a significant effect of exogenous variables on endogenous variables. The results of hypothesis testing can be seen through table 4 below:

TABLE 4: Results of Direct Effect Hypothesis Testing.

Eksogen	Endogen	Path Coefficient	SE	P-value
<i>Intellectual Capital</i>	<i>Financial Policy</i>	-0,328	0.107	0.002
<i>Intellectual Capital</i>	<i>Firm Performance</i>	0,250	0.110	0.013
<i>Financial Policy</i>	<i>Firm Performance</i>	0,419	0.104	<0.001

Source: Data Processed by Researchers, 2022.

Based on the tests listed in table 4, it can be seen as follows:

1. The influence of Intellectual Capital on Financial Policy produces a p-value of 0.002. The test results show that the p-value < level of significance (alpha = 5%). This means that there is a significant influence of Intellectual Capital on Financial Policy.
2. The influence of Intellectual Capital on Firm Performance produces a p-value of 0.013. The test results show that the p-value < level of significance (alpha = 5%). This means that there is a significant influence of Intellectual Capital on Firm Performance.
3. The influence of Financial Policy on Firm Performance produces a p-value of <0.001. The test results show that the p-value < level of significance (alpha = 5%). This means that there is a significant influence of Financial Policy on Firm Performance Behaviour.

While the results of the indirect effect are obtained, the influence of Intellectual Capital on Firm Performance through Financial Policy resulted in a p-value of 0.020. The test results show that the p-value < level of significance (alpha = 5%). This means that there is a significant influence of Corporate Governance on Firm Performance through Financial Policy. The following path diagram conversion in the structural model is intended to

predict the influence of exogenous variables on endogenous variables. It is known that the structural model formed is:

1. Equation 1: $FP = 0.321 IT$

Based on these equations, it can be informed that:

1. The Intellectual Capital Direct Effect Coefficient on Financial Policy is -0.321 stating that Intellectual Capital has a negative and significant effect on Financial Policy. This means that the higher the Intellectual Capital, the more likely it is to be able to significantly reduce Financial Policy.

2. Equation 2: $FPer = 0,250 IT + 0,419 FP$

Based on these equations, it can be informed that:

1. The Direct Effect Intellectual Capital coefficient on Firm Performance is 0.250 which states that Intellectual Capital has a positive and significant effect on Firm Performance. This means that the higher the Intellectual Capital, it tends to significantly increase Firm Performance.
2. The coefficient of Direct Effect Financial Policy on Firm Performance is 0.419 which states that Financial Policy has a positive and significant effect on Firm Performance. This means that the higher the Financial Policy, the more likely it is to be able to significantly increase Firm Performance.
3. The Indirect Effect Coefficient of Intellectual Capital on Firm Performance through Financial Policy is -0.134 stating that Intellectual Capital has a negative and significant effect on Firm Performance through Financial Policy. This means that the higher the Intellectual Capital caused by the strong Financial Policy, it tends to significantly reduce Firm Performance.

5. Research Discussion

A. The impact of Intellectual Capital on Firm Performance

The results of data processing related to Intellectual Capital on Firm Performance show a Direct Effect Coefficient of 0.250 stating that Intellectual Capital has a positive and significant effect on Firm Performance. This means that the higher the Intellectual Capital, it tends to significantly increase Firm Performance. These results are in line with

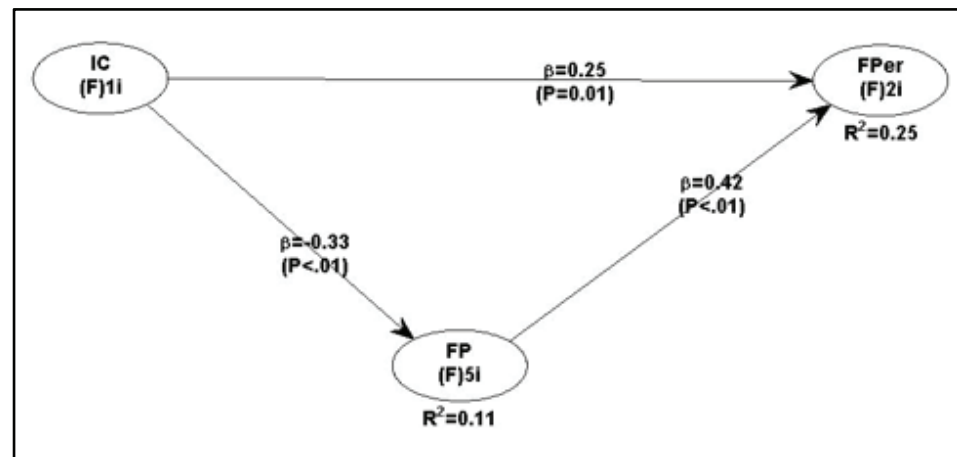


Figure 2: research model. Source: Data Processed by Researchers, 2022.

previous research conducted by [43] that Intellectual Capital is positively related to the firm's operational performance and the firm's financial performance.

This result is also in accordance with the Signalling Theory where Intellectual Capital Disclosure is the disclosure or reporting of the firm intellectual capital which is a signal that the company has high performance and a good future so that Intellectual Capital Disclosure has the potential to have an influence on Firm Performance [11]. Based on the results of data processing shows that the disclosure of Intellectual Capital Disclosure will significantly improve the firm financial performance in accordance with [22], [23], [38], [44] confirm that there is a positive and significant relationship between the efficiency of Intellectual Capital and the firm financial performance. These results provide information that investors value companies that have better Intellectual Capital efficiency.

B. The impact of Intellectual Capital on Financial Policy

The results of data processing related to Intellectual Capital on Financial Policy show that the Intellectual Capital Direct Effect Coefficient on Financial Policy is -0.321 stating that Intellectual Capital has a negative and significant effect on Financial Policy. This means that the higher the Intellectual Capital, the more likely it is to be able to significantly reduce Financial Policy. This proves that the intellectual capital of the companies that are the sample of this study tend to issue financial policies that are less precise.

The results of this study are in line with [35] which state that intellectual capital has a significant negative effect on financial policy, especially debt and dividend payment policies. While this research is not in line with previous research conducted by [16], [36], [38]. The results of his research indicate that Intellectual Capital has a positive effect on financial performance. The results of this analysis also show that with Intellectual

Capital Disclosure where intellectual capital is generally intangible which is becoming widely accepted as the firm main strategic asset and is able to generate sustainable competitive advantages and superior financial performance [45].

The results of this study which show that it is inconsistent with signalling theory which states that companies that have high quality generally pay higher dividends give a positive signal to investors. Therefore, intellectual capital is needed that is able to formulate financial policies that are able to benefit the company and investors. The results of the study indicate that the application of Intellectual Capital tends to reduce financial policy so that further research is needed to examine further the variables and research samples used.

C. The impact of Financial Policy on Firm Performance

The coefficient of Direct Effect of Financial Policy data processing on Firm Performance is 0.419 which states that Financial Policy has a positive and significant effect on Firm Performance. This means that the higher the Financial Policy, the more likely it is to be able to significantly increase Firm Performance. The results of this analysis are in line with [17] proving that financial policy has a positive and significant effect on firm performance.

In addition, the results of this analysis are also in line with the Optimal Financing Policy or Optimal Capital Structure which explains that optimal funding policies are able to prevent companies from experiencing financial problems due to too much debt increasing company performance [13], [14], [46]. So that the implementation of Financial Policy can significantly improve Firm Performance. In relation to previous research, in this hypothesis not many studies have been carried out so that the results of this hypothesis analysis become findings that can be used for further research or as a basis for decision making.

6. Conclusion

This study shows that Intellectual Capital has a positive and significant effect on Company Performance. This means that the higher the Intellectual Capital tends to increase the Company's Performance significantly. In addition, Intellectual Capital has a negative and significant effect on Financial Policy. That is, the higher the Intellectual Capital, the more likely it is to be able to significantly reduce Financial Policy. Furthermore, the Financial Policy has a positive and significant effect on the Company's Performance. This

means that the higher the Financial Policy, the more likely it is to be able to significantly improve the Company's Performance.

Acknowledgements

This research is supported by the Faculty of Administrative Sciences, Brawijaya University, Malang-Indonesia. Therefore, the author would like to thank profusely for the support.

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