



## Determinant of Enterprise Risk Management Disclosure with the Board of Commissioners as a Moderating Variable

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### Abstract

This study examines the effect of the independent board of commissioners and managerial ownership on enterprise risk management (ERM) disclosure. Furthermore, this study uses the board of commissioners as a moderating variable. The sample uses financial sector companies listed on the Indonesia Stock Exchange during the 2020-2023 period. This study uses a purposive sampling technique. The findings reveal that an independent board of commissioners and managerial ownership positively influence enterprise risk management (ERM) disclosure. The board of commissioners can strengthen the effect of managerial ownership on enterprise risk management disclosure. The novelty of this research lies in incorporating board size as a moderating variable in the context of ERM disclosure. Hence, this study offers new insights into the nexus between governance and risk management. This study also contributes to ERM literature by emphasizing the contingent role of board characteristics in shaping risk disclosure practices. Nevertheless, this study only focuses on financial companies. Therefore, future research should include broader industry coverage and adopt longer observation periods to enhance the generalizability and robustness of the results.

## Faktor Penentu Pengungkapan Manajemen Risiko Perusahaan dengan Dewan Komisaris sebagai Variabel Moderasi

### Abstrak

Penelitian ini bertujuan menguji pengaruh dewan komisaris dan kepemilikan manajerial terhadap pengungkapan manajemen risiko perusahaan (ERM). Lebih lanjut, penelitian ini menggunakan dewan komisaris sebagai variabel moderasi. Sampel yang digunakan adalah perusahaan sektor keuangan yang terdaftar di Bursa Efek Indonesia selama periode 2020-2023. Penelitian ini menggunakan teknik pengambilan sampel purposif. Hasil penelitian menunjukkan bahwa dewan komisaris independen dan kepemilikan manajerial berpengaruh positif terhadap pengungkapan manajemen risiko perusahaan (ERM). Dewan komisaris dapat memperkuat pengaruh kepemilikan manajerial terhadap pengungkapan manajemen risiko perusahaan. Kebaruan penelitian ini terletak pada penggabungan ukuran dewan sebagai variabel moderasi dalam konteks pengungkapan ERM. Oleh karena itu, penelitian ini menawarkan wawasan baru tentang hubungan antara tata kelola dan manajemen risiko. Penelitian ini juga berkontribusi pada literatur ERM dengan menekankan peran kontingen karakteristik dewan dalam membentuk praktik pengungkapan risiko. Namun demikian, penelitian ini hanya berfokus pada perusahaan keuangan. Oleh karena itu, penelitian selanjutnya harus mencakup cakupan industri yang lebih luas dan mengadopsi periode observasi yang lebih panjang untuk meningkatkan generalisasi dan kekokohan hasil.

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## INTRODUCTION

Risk is inevitable in every organization. Therefore, risk management is very important. Effective risk governance must ensure that a firm can identify, manage, and address risks appropriately. Hence, the negative impacts can be minimized. Risk management is not just a reactive step but also an integral part of the company's strategy planning and implementation to achieve sustainable success (Qureshi, 2022). In addition, enterprise risk management (ERM) disclosure provides stakeholders with valuable insight into how a firm assesses and manages risks that affect organizational sustainability and long-term performance.

Going in depth, PT Asuransi Jiwasraya (Persero), which recorded a negative equity of IDR 23.92 trillion in September 2019 due to liquidation. The recovery of its financial health requires IDR 32.89 trillion (Alimirruchi & Chariri, 2023). The financial problems experienced by PT Asuransi Jiwasraya reflect the failure to implement adequate Enterprise Risk Management (ERM) and the failure to identify and manage liquidity risk (Rahmawati et al., 2024). In 2021, a report emerged regarding the alleged leak of PT Asuransi BRI Life customer data. Based on an internal investigation, the company found that the cybercriminals accessed the data through a separate system, namely the BRI Life Syariah system, without affecting the company's core system or customer data from other BRI groups. The allegedly leaked data includes less than 25,000 individual policyholders and their personal and policy information. The link on the online trading forum offering the data has reportedly been removed (Rahma et al., 2023)

This case shows that BRI Life still needs to evaluate this incident by paying attention to performance indicators and by comprehensively managing risks. In

addition, effective monitoring and reporting must continue to be carried out to ensure a quick and appropriate response in the event of a future cybersecurity incident or data leak. These steps are important to prevent future risks. In addition, enterprise risk management is essential to prevent fraud (Tarjo et al., 2022). Several cases above show that disclosing a good ERM system within the company still does not guarantee that the company will avoid the risks that arise. Therefore, companies should pay attention to the effectiveness of enterprise risk management.

Based on agency theory, enterprise risk management (ERM) disclosure is one of the governance mechanisms to reduce information asymmetry and agency conflicts between managers and shareholders. Hence, the transparency of risk disclosure is essential to maintaining investor confidence and ensuring effective market discipline. Furthermore, those BRI cases prove that the financial sector is the most risk-intensive industry. Some governance in financial institutions indicates that inadequate oversight mechanisms may weaken risk management practices. Hence, this condition shows the importance of effective corporate governance. Corporate governance effectiveness can be seen in the independent board of commissioners, the board of commissioners, and management.

An independent board of commissioners becomes an essential element of corporate governance. This board has an impact on the effectiveness of implementing enterprise risk management (ERM). An independent board of commissioners is composed of members from external companies. This board is independent and cannot be interfered with by the company's management. An independent board of commissioners can increase transparency, objectivity, and the effectiveness of risk oversight (Wahyuni & Nurbaiti, 2020). In addition, the independent board

of commissioners can improve company performance (Jafar et al., 2024). Based on agency theory argued that the principal and agent create various conflicts of interest due to the imbalance of information owned by the agent and the principal (Jensen & Meckling, 1976). Therefore, the presence of the independent board of commissioners can bridge this imbalance. An independent board of commissioners also provides a perspective free of various interests. This step can ensure that access to company information matches the information owned by the agent. Hence, an independent board of commissioners is an external resource for the company that can add value to create appropriate enterprise risk management.

Enterprise risk management is also influenced by managerial ownership. Managerial ownership is the ownership of shares by company management, who always have the power to make decisions. However, the effect of managerial ownership on the implementation of enterprise risk management (ERM) remains debated. Prior research found that managerial ownership has a significant negative effect on ERM (Rahmawati & Prasetyo, 2020). Managerial ownership encourages opportunistic management behavior, such as the entrenchment effect. This condition can reduce the effectiveness of enterprise risk management. However, another research believes managerial ownership can affect enterprise risk management in a private firm (Mafrolla et al., 2016). Private companies have a more dispersed ownership structure, so they are more proactive in implementing earnings management practices. Ownership distribution can improve enterprise risk management due to the needs of many stakeholders. The presence of managerial ownership tends to encourage entrenchment, leading to greater risk-taking. This encourages the need for disclosure of enterprise risk management (Salehi et al., 2022). Managerial ownership has a bad impact on enterprise risk

management disclosure (Wiradikusumah, 2024). Hence, the company should maintain the number of managerial ownerships.

Going more in-depth, the board of commissioners is also an important party in achieving good corporate governance. The moderating variable chosen is the size of the board of commissioners. This variable has a positive influence on enterprise risk management (Wiradikusumah, 2024). In addition, some research revealed the same results, namely that BOC has a positive effect on ERM (Soepeno et al., 2021; Tubagus, 2021; Ghofar et al., 2022). These consistent results are the basis for researchers to choose the board of commissioner's size variable as a moderating variable.

Prior studies argue that governance mechanisms, such as board independence and ownership structure, influence ERM disclosure, yet empirical findings remain inconsistent, especially in emerging markets. Most existing ERM disclosure studies focus on the direct effects of governance attributes, implicitly if governance mechanisms operate uniformly across firms. Consequently, limited attention has been given to the context of board characteristics, especially board size, in shaping the effectiveness of governance mechanisms. In addition, in Indonesia, a two-tier board system was implemented, which means the size of the board of commissioners may influence monitoring intensity, coordination quality, and the ability to monitor risk-taking. This shows that prior ERM studies rarely use board commissioner size as a moderating variable. This study differs from previous research by explicitly examining how the board of commissioners acts as a moderator in the relationship between an independent board of commissioners. Managerial ownership and ERM disclosure. This study contributes to giving more understanding of how governance mechanisms interact to mitigate agency problems.

### **Hypothesis Development**

#### **Independent Board of Commissioners and Enterprise Risk Management Disclosure**

Many conflicts of interest arise between management and shareholders. An independent board of commissioners, as a party with no direct affiliation with management or controlling shareholders, serves as a governance mechanism to reduce this conflict. This refers to the existence of an independent board of commissioners outside the company that possesses the competencies required by the company. Independent commissioners can improve the company's performance. In addition, from the perspective of agency theory, the conflict of interest between management and principal can be reduced by the presence of independent parties, such as an independent board of commissioners. This is in line with previous research that an independent board of commissioners is able to reduce conflicts of interest, thereby improving company performance (Jafar et al., 2024). Commissioners' independence allows them to perform their supervisory function objectively, including ensuring that the company manages risks effectively and transparently. Thus, they encourage more comprehensive ERM disclosures to provide relevant information to shareholders and other stakeholders. These disclosures reflect the company's commitment to good risk management and increase investor confidence in corporate governance.

H1: The Independent Board of Commissioners has a positive effect on Enterprise Risk Management disclosure

#### **Managerial Ownership and Enterprise Risk Management Disclosure**

A conflict of interest between principals (shareholders) and agents (managers), where agents may not always act in the interests of the principal. One way to reduce this conflict is to provide share ownership to managers, so that they have a greater incentive to act in accordance with

shareholder objectives. It will increase the company's value and manage risk well. With share ownership, managers tend to pay more attention to the company's long-term sustainability, including risk management. This encourages them to disclose ERM-related information more transparently and comprehensively. Better disclosure of ERM not only helps managers mitigate risks that can harm the company, but also increases shareholder and other stakeholder confidence in corporate governance. Therefore, managerial ownership can reduce agency problems compared to situations where management, who are not owners, supervise company management. Managerial ownership supports improvements in internal control. Management ownership will facilitate improvements in control effectiveness (Liu, 2023). Hence, the managerial ownership has a positive effect on enterprise risk management.

H2: Managerial ownership has a positive effect on enterprise risk management disclosure

#### **The Moderating Role of the Board of Commissioners on the Relationship between the Independent Board of Commissioners and Enterprise Risk Management Disclosure**

The size of the board of commissioners plays a crucial role in shaping the company's approach to risk disclosure (Biswas et al., 2022). Furthermore, the composition of the board in a company can increase disclosure related to company risks (Lippi, 2021). In addition, the quality of corporate governance can have an impact on the company's cost of capital (Bertoncelli et al., 2021). A large board size can also increase the company's performance (Merendino & Melville, 2019). The more boards, the more personnel are involved, sharing backgrounds and experiences that can positively impact the company. The independent board of commissioners is a party that has no direct affiliation with management or controlling

shareholders. This board can reduce conflict. The independence of commissioners allows them to carry out their supervisory function objectively, including ensuring that the company manages risks effectively and transparently. Thus, they encourage more comprehensive ERM disclosures to provide relevant information to shareholders and other stakeholders. The size of the board of commissioners reflects the extent of supervision it exercises. The performance of independent commissioners tends to be more effective when supported by a larger board of commissioners. The existence of a strong oversight mechanism can reduce the magnitude of information asymmetry. This encourages transparency in risk management.

H3: The board of commissioners strengthens the influence of the independent board of commissioners on enterprise risk management disclosure

**The Moderating Role of the Board of Commissioners on The Relationship Between Managerial Ownership and Enterprise Risk Management Disclosure**

Managerial ownership is often used to align interests between managers and shareholders, as managers who own shares are more motivated to increase company value and long-term sustainability. In addition, managerial ownership increases firm value (Wiradikusumah, 2024). However, although managerial ownership

can reduce the potential for agency conflicts, its influence on ERM disclosure can be limited without an effective monitoring mechanism. The impact of managerial ownership on risk disclosure is not always clear. If managerial ownership is high, it will lead managers to act in their own interests rather than those of other stakeholders. This tends to reduce the level of risk disclosure (Liu et al., 2023). Therefore, a supervisory factor is needed, namely the board of commissioners. The size of the board of commissioners is a contextual factor that can provide a broader supervisory perspective, thereby maintaining the quality of risk distribution (Elmoursy et al., 2025). Hence, the size of the board of commissioners is important for risk disclosure. A larger board of commissioners can improve the quality of supervision of managers by bringing more diverse perspectives and expertise to the problem-solving related to enterprise risk management disclosure. Thus, a larger board of commissioners can strengthen the monitoring function of managers who have shared ownership, ensuring that managers not only act in their personal interests but are also responsible for managing company risk.

H4: Board of Commissioners strengthens the influence of managerial ownership on enterprise risk management disclosure

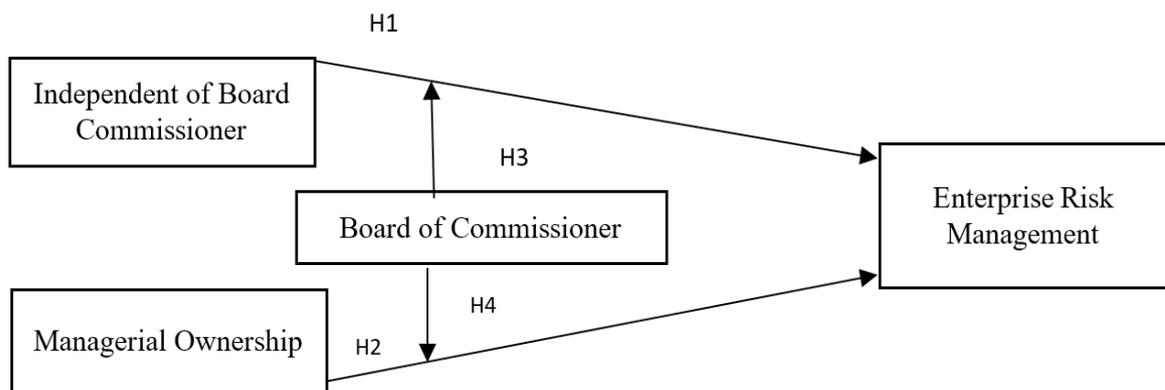


Figure 1. Framework of Research

## METHOD

This research employed quantitative methods to examine the relationship between corporate governance mechanisms (independent board of commissioners and managerial ownership) and enterprise risk management disclosure. The data for this study come from secondary sources in the financial sector's annual reports. This study focuses on the financial sector as the research sample due to the high exposure to financial, operational, and regulatory risk. This data was retracted from the annual reports for 2020 to 2023 on the Indonesia Stock Exchange (IDX). This study focuses only on data from the past four years due to recent governance practices and risk disclosures under a stable regulatory environment. This research applied panel data regression analysis in SPSS version 27.

The sample of this research is purposive, with criteria to ensure data relevance and availability. The criteria include

financial sector companies that consistently listed on IDX during the 2020-2023 period, published complete annual reports, and disclosed the Committee of Sponsoring Organizations (COSO) framework as part of their internal control and risk management practices. Table 1. Research Sampling shows that the number of observation units is 128. However, there are 44 observation units that are outliers because they have values that are too extreme compared to the others. Therefore, these 44 observation units were removed to reduce potential bias. The final observation unit is 84, which is sufficient for use in panel data analysis and consistent with previous corporate governance and ERM disclosures. Furthermore, according to previous research, small data can capture real and valid conditions (Elango, 2025). Therefore, this study is valuable even though it only uses 84 observations, because it covers the entire population of the financial sector and uses purposive sampling.

**Table 1.** Research Sampling

No	Criteria	Total
1	Financial companies listed on the IDX in the period 2020-2023	105
2	Financial companies that present complete annual reports and financial reports for 2020-2023, and can be accessed via the website: www.idx.co.id or via the company's official website	(7)
3	Financial companies use and disclose the Committee of Sponsoring Organizations (COSO) in their annual reports as part of their internal control	(66)
Number of companies that meet the criteria		32
Number of companies selected as samples		32
Number of observation units (32 companies x 4 years)		128
Outlier Data		(44)
Final number of observation units		84

Source: Processed Data (2025)

**Table 2.** Operational Variables

Variable	Definition	Measurement
Enterprise Risk Management (ERM)	The extent to which companies disclose risk management in annual reports.	Total of item disclosure divided by 20 (COSO, 2017)

Independent Board of Commissioners	The board of commissioners who meet the requirements as independent commissioners (from outside firm, without family relationship)	Total number of independent Board of Commissioners divided by Total Members of the Board of Commissioners multiplied by 100% (Wahyuni et al., 2020)
Managerial Ownership	The percentage of company shares owned by company management	Total number of managerial shares divided by total number of shares outstanding) multiply by 100% (Khumairoh & Agustina, 2017)
Board of Commissioners	The company board is tasked with overseeing specific areas and providing advice to the company	Number of Board of Commissioners (Abbas et al., 2021)

Source: Processed Data (2025)

This study applies panel data and estimates the models using pooled ordinary least squares (OLS). Pooled OLS is appropriate given the study’s focus on overall relationships across firms and time. This has also been widely used in prior ERM disclosure research (Yousaf, 2025). The data analysis uses SPSS version 27. Moreover, all variables derived from the annual report that reflect stable organizational characteristics, thereby reducing the likelihood of endogeneity bias.

## RESULT AND DISCUSSION

The classical assumption test indicates that the data meet all the assumptions. The normality test shows a Kolmogorov-Smirnov value of 0.200. This condition indicates the data follows a normal distribution. Furthermore, multicollinearity diagnostics indicate that each variable has a tolerance value greater than 0.10 and a

VIF value less than 10. The condition indicates that there are no multicollinearity issues in the data for this study. For the Spearman test, the p-value is greater than 0.05, indicating no heteroscedasticity in this study.

The results reveal that all independent variables exert a significant positive effect on enterprise risk management. Table 3. Regression Results reveal that the independent board of commissioners has a regression coefficient of 0.195, reflecting a positive influence. With a significance value of 0.026, the independent board of commissioners is shown to positively influence enterprise risk management. The regression coefficient for managerial ownership is 189.493, with a positive sign and a significant p-value of 0.006. This condition indicates that managerial ownership positively and significantly contributes to the implementation of enterprise risk management.

**Table 3.** The Result of Linear Regression

Hypothesis	B	Sig.	Results
H1	0.195	0.026	Supported
H2	189.493	0.006	Supported

Source: Processed Data (2025)

In the moderation regression, the results show that the B value is 0.12, with a positive sign. The significance value is 0.257. This shows that the size of the board of commissioners cannot moderate

the relationship between board independence and the implementation of enterprise risk management practices. Furthermore, the B value for the relationship between the board of commissioners and manage-

rial ownership is 98.590, with a positive sign. The significance value is 0.018. This shows that the board of commissioners'

size strengthens the positive relationship between managerial ownership and risk management strategies.

**Table 4.** The Result of Moderated Regression Analysis

Hypothesis	B	Sig.	Results
H3	0.12	0.257	Unsupported
H4	98.590	0.18	Supported

Source: Processed Data (2025)

### **Independent Board of Commissioners and Enterprise Risk Management Disclosure**

This study proves that corporate governance mechanisms influence enterprise risk management (ERM) disclosure, advancing both theory and empirical knowledge. The independent board of commissioners is positively associated with ERM disclosure. It is in line with agency theory that independent oversight can mitigate agency conflicts. This condition enhances transparency and accountability in risk reporting. This is consistent with the prior research that boards improve risk disclosure quality (Raimo et al., 2022). The involvement of the independent board of commissioners is key to promoting transparency. An independent board of commissioners is part of the corporate governance structure that is free from various pressures. The presence of this board provides benefits to the company's leadership. In line with previous research, the independence board is important for managing risk (Abebe & Dhaliwal, 2024). The presence of an independent board of commissioners positively influences the extent of risk management within the company. Consistent with earlier studies, this study also supports the view that an independent board of commissioners strengthens corporate accountability and risk exposure. is able to encourage the disclosure of enterprise risk management (Kurniawanto et al., 2020). An independent board of commissioners plays an important role, especially in its objective supervisory function, and its existence is crucial to transparency in enterprise risk management reporting.

An independent board of commissioners is a solution to minimize conflict of interest. The ability, background, and experience of an independent commissioner could improve risk disclosure.

### **Managerial Ownership and Enterprise Risk Management Disclosure**

This managerial ownership has a positive effect on enterprise risk management disclosure. Managerial ownership can increase the communication of ERM-related information to stakeholders. Equity ownership held by management encourages greater transparency in risk management activities for strategic decision-making. This result is in line with a previous study that found that managerial ownership can increase risk management disclosure (Raimo et al., 2022). The existence of share ownership by managers and harmony between the funders and the company's manager can be established. This condition encourages management to be more transparent in disclosing risks and their risk management. Companies with managerial ownership tend to be more open in terms of disclosing enterprise risk management (Rahma et al., 2023). Therefore, managerial ownership is one of the elements that support optimal enterprise risk management. Higher levels of managerial ownership are linked to improved disclosure of corporate risk management strategies. Companies whose management owns shares are more likely to act carefully. Management will manage the company in accordance with shareholders' interests, as they are also shareholders. The higher managerial ownership

leads to better disclosure of environmental risk (Wiradikusumah, 2024). This condition is due to the effective internal control by managerial ownership. Managerial ownership provides the company with an advantage, especially in internal control.

### **The Moderating Role of the Board of Commissioners in the Relationship between Independent Commissioners and Enterprise Risk Management Disclosure**

Empirical evidence from this study suggests that the board of commissioners has a notable influence on the relationship between the independent board of commissioners on disclosure. According to agency theory, the tension between managerial decision-making and shareholder interests stems from information asymmetry (Jensen & Meckling, 1976). Although the board of commissioners is expected to support risk oversight, its presence has not demonstrated a positive moderating effect on the relationship between independent commissioners and enterprise risk management disclosure. These findings reveal that the company's board of commissioners does not significantly contribute to enhancing enterprise risk management practices. This condition shows the board of commissioners has not carried out its duties effectively (Yulianto et al., 2021). From the perspective of agency theory, the board of commissioners serves as a governance mechanism that mediates between management's objectives and shareholders' rights. However, if the board of commissioners functions only symbolically, it undermines the implementation and monitoring of a robust risk management framework. The implementation of its function will fail to encourage the extent of information revealed about enterprise risk management. Furthermore, this failure may be a consequence of ineffective governance, stemming from the board of commissioners' inadequate capacity to fulfill their oversight role. Hence, this board can not emphasize the role of over-

sight in improving governance quality.

### **The Moderating Role of the Board of Commissioners in the Relationship between Managerial Ownership and Enterprise Risk Management Disclosure**

The findings suggest that the board of commissioners enhances the effectiveness of managerial ownership in promoting transparent and accountable enterprise risk management. The separation between agent and principal creates a conflict of interest (Jensen & Meckling, 1976). Agents who become owners make management responsible for bearing risks. Furthermore, the involvement of the board of commissioners in corporate oversight enhances the effectiveness of managerial ownership in promoting greater transparency in risk management practice (Hady, 2019). The strategic governance responsibilities held by the board of commissioners are to provide strength for the relationship between managerial ownership in enterprise risk management, especially in the business risks faced (Putra et al., 2023). Furthermore, the active role of the board of commissioners can increase the positive impact of corporate governance on enterprise risk management disclosure (Sari et al., 2022). Therefore, a board of commissioners with clearly defined roles and sufficient competencies is essential to ensuring sound strategic and risk-related decisions. A supervisory role can encourage management to disclose risks transparently, thereby increasing the positive effects of managerial ownership. A larger board of commissioners could give more attention to all management activities. It leads to maximizing risk disclosure, which is important for firm sustainability.

## **CONCLUSION AND RECOMMENDATION**

The study finds that both the independent board of commissioners and managerial ownership are associated

with greater openness in enterprise risk reporting. Moreover, a larger board of commissioners may amplify the effect of managerial ownership on enterprise risk management disclosure. However, this paper failed to prove that the board of commissioners strengthens the relationship between independent commissioners and risk disclosure. Overall, this study proves that the effectiveness of ERM disclosure depends not only on the structure of the board of directors, but also on the quality of oversight and the alignment of interests between managers and shareholders.

This study offers policy implications for regulators in emerging markets. Regulators should continue to emphasize the presence and active involvement of independent commissioners in corporate governance regulations. Furthermore, companies should focus on the qualifications and expertise of independent commissioners. While this study offers new insights into the moderating role of the board of directors, it focuses only on the financial sector. This means the results cannot be generalized to companies in other sectors. Therefore, further research is recommended to examine other sectors and use other corporate governance variables, such as audit committees, to obtain more comprehensive results.

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