



## Financial capability, coping strategy, and MSME resilience

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### ABSTRACT

The research investigates how financial capability contributes to the economic resilience of flood-affected MSME households, with coping strategies serving as an intervening mechanism in the relationship. Financial capability is conceptualized through four dimensions: financial knowledge, financial attitude, financial behavior, and financial skills. Using a quantitative survey framework, data were obtained from MSME households experiencing the impacts of flooding. The relationships among the study constructs were subsequently evaluated using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that each dimension of financial capability contributes to the development of coping strategies. Financial behavior exhibited the largest contribution, while financial knowledge, financial skills, and financial attitude showed comparatively smaller effects. Coping strategy significantly contributes to economic resilience, indicating its role as an adaptive mechanism in responding to economic shocks. Furthermore, flood impact has a substantial effect on economic resilience, highlighting the importance of disaster-related factors in shaping household economic outcomes. The findings support the Behavioral Finance perspective, suggesting that actual financial practices are more influential than financial knowledge alone in strengthening resilience. This research extends existing knowledge by positioning coping strategy as a mechanism linking financial capability and economic resilience among MSME households. The findings imply that policies aimed at improving MSME resilience should focus not only on financial assistance but also on strengthening financial capability and disaster-adaptive behavior.

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## 1. INTRODUCTION

Severe flooding in Langkat Regency during November 2025 generated substantial social and economic disruptions for local communities. Beyond damaging infrastructure and residential areas, the disaster interrupted household livelihoods and reduced the operational capacity of many micro, small, and medium enterprises (MSMEs), which represent a major source of income for affected families. The floods not only caused damage to infrastructure and residential environments, but also directly disrupted household economic activities, particularly micro, small, and medium enterprises (MSMEs), which are the primary source of livelihood for local communities. In the post-disaster situation, MSME households are faced with various important financial decisions, such as the use of aid funds, debt management, cash flow recovery, and short- and long-term financial planning.

Evidence from the COVID-19 pandemic further revealed that many households remain financially fragile when confronted with unexpected shocks, emphasizing the importance of strengthening financial resilience and adaptive capacity (Clark et al., 2021). Similar patterns were observed across European countries, where financial fragility increased significantly during periods of economic uncertainty, particularly among vulnerable households with limited financial buffers (Demertzis et al., 2020). The ability and knowledge to manage finances are crucial factors in determining household economic resilience. This situation shows that floods are not merely natural disasters but also economic shocks that have the potential to weaken the economic resilience of MSME households if not balanced with adaptive and sustainable financial management capabilities. Financial resilience is a multidimensional concept encompassing access to resources, financial knowledge, adaptive financial behavior, and the capacity to recover from adverse economic events (Salignac F, Marjolin A, Reeve R, 2019).

MSMEs constitute the backbone of the Indonesian economy by generating a substantial share of national output and providing employment opportunities for the majority of the workforce. Their contribution becomes even more important during periods of economic recovery and regional development (Tambunan, 2019), (Badan Pusat Statistik, 2023), (Wibowo, A., & Handayani, 2022). MSMEs are a strategic sector that contributes 58-61% of national GDP and absorbs the majority of the workforce (Tambunan, 2019). Their role becomes increasingly crucial in the context of post-pandemic economic recovery, where MSMEs develop various mitigation strategies to survive. However, amidst this significant contribution, MSMEs often face serious challenges related to economic resilience, both in the business and household contexts. Many MSMEs do not yet have the ability to manage their finances well due to low financial literacy, lack of financial planning, and the dominance of decisions based on intuition or unproductive habits (OJK, 2021). Cross-country evidence further indicates that financially literate households tend to exhibit stronger financial resilience and greater preparedness when facing economic shocks and unexpected crises (Klapper & Lusardi, 2019). Data from the OECD/INFE (OECD/INFE, 2022) shows that although financial literacy has increased, it is not always followed by wise financial behavior. Furthermore, recent research by (Lusardi & Mitchell, 2023) confirms that high financial literacy increases household economic resilience and reduces the risk of excessive debt. Recent evidence also suggests that financial knowledge, financial inclusion, and financial capability are important determinants of household financial resilience in developing countries (Hamid et al., 2023). Financial capability consists of several interrelated dimensions that collectively form the adaptive capacity of MSME households. Financial knowledge supports informed decision-making, financial skills improve resource management, financial attitudes encourage preparedness, and financial behavior reflects practical actions that enhance households' ability to adapt to economic shocks. However, previous studies have primarily examined the direct relationship between financial capability and resilience, while limited attention has been given to the mediating role of coping strategies, particularly among disaster-affected MSME households. This study therefore investigates how financial capability affects the economic resilience of MSME households, and how a behavioral finance approach can explain this mechanism.

## 2. RESEARCH METHOD

A quantitative survey design was employed to investigate how financial capability contributes to the economic resilience of MSME households within the framework of behavioral finance. This approach was selected to provide objective empirical evidence regarding the interactions among the study constructs. The study population consisted of MSME owners operating active businesses and experiencing post-disaster economic conditions. This study integrates the concepts of financial capability and behavioral finance, drawing on the framework proposed by (Atkinson, A., & Messy, 2012) which conceptualizes financial capability as a combination of financial literacy, attitudes, skills, and their application in daily financial decision-making. Financial capability was measured through four dimensions: financial attitude, financial knowledge, financial skills, and financial behavior. Coping strategy was assessed through household adaptation indicators, including expenditure

adjustment, income diversification, savings utilization, and asset optimization, while flood impact was measured based on asset damage, business disruption, income reduction, and recovery-related costs experienced by respondents.

On the other hand, the Behavioral Life-Cycle Hypothesis framework (Shefrin, H. M., & Thaler, 1988) is used to explain how self-control influences consumption and savings patterns, especially in the context of limited income and economic uncertainty. This theory is relevant in analyzing the financial decisions of MSME actors, which are often colored by conflicts between short-term desires and long-term goals. This research employs SEM-PLS analysis, with calculations supported by the SmartPLS 4.1.1.8 software application. PLS is a variance-based SEM technique used to address issues such as small sample sizes, missing data, and multicollinearity in regression analysis. The evaluation of the Partial Least Squares (PLS) model is conducted through assessments of both the outer and inner models. Convergent validity is a component of the measurement model, referred to as the outer model in SEM-PLS, and as confirmatory factor analysis (CFA) in covariance-based SEM (Sholihin, Mahfud. Ratmono, 2021). To assess whether the outer model (measurement model) satisfies the requirements for convergent validity for reflective constructs, two criteria must be met: (1) the loading should exceed 0.7, and (2) the p-value must be significant (<0.05)

**Outer Model Processing**

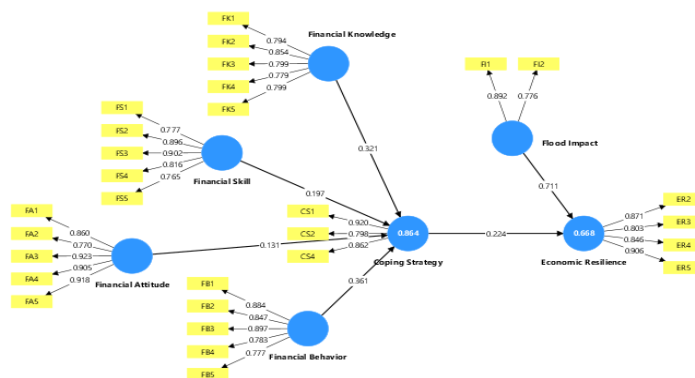


Figure 1. Final measurement model after convergent validity assessment

The measurement model assessment indicates that all indicators achieved loading values above the recommended threshold of 0.70, confirming their adequacy in representing the intended constructs. Convergent validity was further evaluated using the Average Variance Extracted (AVE). The results show that each construct obtained an AVE value greater than 0.50, suggesting that the latent constructs explain more than half of the variance captured by their respective indicators.

	Average Variance Extract
Coping Strategy	0,742
Economic Resilience	0,735
Financial Attitude	0,769
Financial Behavior	0,704
Financial Knowledge	0,649
Financial Skill	0,694
Flood Impact	0,699

Figure 2. Validity testing based on average variance extracted (AVE) value

The measurement model evaluation shows that each construct satisfies the AVE criterion, with values exceeding 0.50, thereby demonstrating satisfactory convergent validity. This shows that each variable has good discriminant validity.

Table 1. Validity testing based on CR value

	Comp Reliability (rho_c)
Coping Strategy	0,896
Economic Resilience	0,917
Financial Attitude	0,943
Financial Behavior	0,922
Financial Knowledge	0,902
Financial Skill	0,919
Flood Impact	0,822

The measurement model demonstrated satisfactory reliability and validity. All indicators achieved loading values above the recommended threshold of 0.70, ranging from 0.765 to 0.923, indicating that they adequately represent their respective constructs. In addition, Composite Reliability values for all latent constructs exceeded 0.70, confirming a satisfactory level of internal consistency among the measurement items. These findings provide evidence that the indicators reliably capture the underlying constructs and support the adequacy of the measurement model. Inner Model Processing.

Table 2. Discriminant validity – fornell larcker criterion

	Coping Strategy	Economic Resilience	Financial Attitude	Financial Behavior	Financial Knowledge	Financial Skill	Flood Impact
Coping Strategy	0,861						
Economic Resilience	0,473	0,858					
Financial Attitude	0,844	0,252	0,877				
Financial Behavior	0,863	0,362	0,869	0,839			
Financial Knowledge	0,873	0,417	0,805	0,774	0,805		
Financial Skill	0,816	0,512	0,713	0,704	0,844	0,833	
Flood Impact	0,349	0,790	0,263	0,377	0,308	0,417	0,836

Discriminant validity was evaluated using the Fornell–Larcker criterion to determine whether each construct is empirically distinct from the other constructs included in the model.

Table 3. Significance test of influence (bootstrapping)

	Original Sample (O)	T Statistic	P Value
Coping Strategy -> Economic Resilience	0,476	2,363	0,009
Financial Attitude -> Coping Strategy	0,136	1,465	0,071
Financial Attitude -> Economic Resilience	-0,484	3,660	0,000
Financial Behavior -> Coping Strategy	0,360	3,583	0,000
Financial Behavior -> Economic Resilience	0,037	0,192	0,424
Financial Knowledge -> Coping Strategy	0,329	3,293	0,000
Financial Knowledge -> Economic Resilience	0,071	0,594	0,276
Financial Skill -> Coping Strategy	0,188	2,330	0,010
Financial Skill -> Economic Resilience	0,120	0,850	0,198
Flood Impact -> Economic Resilience	0,626	6,383	0,000

This test is conducted to know the relationship among latent variables is significant or not. The test results reflect the Path Coefficients score which is the result of direct effect testing. The Fornell–Larcker assessment indicates that the square root of the AVE for each construct exceeds its correlations with other constructs, demonstrating adequate discriminant validity and confirming that the constructs are empirically distinct.

Table 4. R square

	R-Square	R-square Adjusted
Coping Strategy	0,864	0,858
Economic Resilience	0,668	0,661

The coefficient of determination ( $R^2$ ) for Coping Strategy was 0.864, suggesting that financial attitudes, financial behavior, financial knowledge, and financial skills collectively account for a

substantial proportion of variance in coping strategies. In addition, Economic Resilience achieved an  $R^2$  value of 0.668, indicating that coping strategies, flood impact, and financial capability-related factors contribute considerably to explaining differences in household economic resilience. Overall, these results demonstrate that the proposed model possesses substantial explanatory capability.

### 3. RESULTS AND DISCUSSIONS

The study results were analyzed using PLS-SEM with SmartPLS software. Model evaluation involved assessing the measurement and structural components of the framework. For the measurement model, convergent validity was examined to verify whether the indicators adequately reflected their respective latent constructs. The assessment criteria required standardized loadings above 0.70 and statistical significance at  $p < 0.05$ .

The results highlight that all dimensions of financial capability contribute to household coping strategies. However, financial behavior emerged as the most influential factor, suggesting that adaptive responses are shaped more by actual financial practices than by financial attitudes, knowledge, or skills alone. The ability of MSME households to withstand economic pressures depends largely on behaviors such as regular saving, expenditure control, emergency fund preparation, and financial planning. This finding implies that financial education initiatives should focus not only on improving financial literacy but also on encouraging positive financial habits that can strengthen resilience during periods of uncertainty.

#### **The Influence of Financial Knowledge on Coping Strategy**

The positive coefficient associated with financial knowledge ( $\beta = 0.321$ ) suggests that a higher level of financial literacy enhances households' capacity to evaluate available options and implement adaptive measures during periods of economic uncertainty. From a behavioral finance perspective, individuals with sound financial knowledge tend to be more rational in making economic decisions, evaluate risks objectively, and select appropriate responses when facing uncertainty. Knowledge of cash management, savings, credit, and investments is crucial for developing effective coping strategies. Financial literacy also encourages individuals to seek and utilize financial information and professional advice more effectively, thereby improving the quality of financial decisions under uncertain conditions (Kim & Mitchell, 2021). This finding is consistent with (Kaiser et al., 2022) who show that financial education improves financial knowledge and subsequently influences behavioral responses and financial decision-making outcomes.

#### **The Influence of Financial Skills on Coping Strategy**

Financial skills were found to play a meaningful role in shaping coping strategies, as reflected by a path coefficient of 0.197. This finding suggests that households with stronger financial management competencies are better prepared to respond to economic challenges and uncertainties. Financial skills include the ability to prepare a budget, manage cash flow, maintain financial records, and create short- and long-term financial plans. These competencies enable MSME households to allocate resources more efficiently, prioritize essential expenditures, and make timely financial adjustments when facing declining income or unexpected shocks. As a result, households are better positioned to maintain business continuity and reduce the adverse effects of economic pressures. Although its influence is smaller than financial knowledge and financial behavior, financial skills remain an important component of sustainable economic adaptation.

#### **The Influence of Financial Behavior on Coping Strategy**

Financial behavior demonstrated the largest contribution among the financial capability dimensions, indicating that actual financial practices are more influential in supporting household coping mechanisms than financial knowledge, skills, or attitudes. These findings reinforce behavioral finance theory, which asserts that an individual's actual behavior in managing finances is often more decisive than mere knowledge. Behaviors such as regular saving, controlling spending, avoiding unproductive debt, and implementing financial planning have been shown to increase the adaptive capacity of MSME households. In other words, households that practice healthy financial behavior

will be better prepared to face economic pressures and have more strategic options when there is a decline in income or business disruption. Similar findings were reported by (Supramono et al., 2025), who found that financial behavior significantly accelerates MSME recovery and strengthens business sustainability following periods of economic disruption

### **The Influence of Financial Attitude on Coping Strategy**

The results show that financial attitude has a positive coefficient ( $\beta = 0.136$ ), but the relationship is not statistically significant ( $p > 0.05$ ). This finding indicates that a positive attitude toward financial management does not necessarily translate into effective coping strategies among MSME households. Although respondents may recognize the importance of financial planning and prudent financial management, such attitudes may not always be reflected in actual adaptive behavior during periods of economic stress. One possible explanation is that coping strategies are more strongly influenced by practical financial experience and behavioral habits than by attitudes alone. In disaster situations, households often rely on immediate actions, available resources, and previous experiences rather than their general perceptions regarding financial management. These results support the view that financial outcomes are influenced more strongly by actual financial practices than by attitudes or intentions alone, as emphasized in behavioral finance theory.

### **Non-Significant Direct Effects of Financial Capability on Economic Resilience**

The results indicate that improvements in financial knowledge, financial behavior, and financial skills do not automatically translate into higher levels of economic resilience when considered through direct effects alone. Although the coefficients are positive, the relationships failed to reach statistical significance. These findings suggest that financial capability dimensions may not directly strengthen household economic resilience without first being translated into adaptive coping strategies. From a Behavioral Finance perspective, financial capability represents a potential resource rather than an immediate determinant of resilience. Financial knowledge, skills, and behavior only become effective when they are transformed into concrete adaptive actions during periods of economic stress. In other words, households may possess adequate financial literacy and financial management capabilities, but such resources do not automatically improve resilience unless they are utilized through effective coping mechanisms.

The results also imply that coping strategy acts as a more proximal determinant of economic resilience than financial capability itself. This finding supports resilience theory, which emphasizes that resilience is shaped not only by available resources but also by the ability to mobilize and utilize those resources when facing external shocks. Therefore, the influence of financial capability on resilience is likely to operate indirectly through coping strategies rather than through direct pathways. Furthermore, the insignificant effect of financial behavior on economic resilience suggests that prudent financial practices alone may be insufficient to offset severe external shocks such as flood disasters. In disaster-prone environments, economic resilience is often determined by a combination of adaptive capacity, resource availability, and environmental conditions. Consequently, households with good financial capability may still experience substantial economic vulnerability if they are exposed to severe disaster impacts.

### **The Influence of Coping Strategy on Economic Resilience**

The findings indicate that coping strategy contributes positively to economic resilience, as reflected by a path coefficient of 0.476. These results suggest that adaptation strategies implemented by MSME households play an important role in strengthening resilience. Such strategies may include reducing non-essential expenditures, diversifying income sources, utilizing savings, and optimizing productive assets. The more effective these coping strategies are, the greater the household's capacity to maintain economic stability during periods of external pressure or crisis. Households with stronger financial capability are generally better equipped to implement such adaptive measures, enabling financial resources and competencies to be transformed into resilience outcomes. Therefore, coping strategies serve as an important mechanism linking financial capability to economic resilience.

### **The Influence of Flood Impact on Economic Resilience**

The findings reveal that flood impact exerts the strongest effect on economic resilience among all variables in the model ( $\beta = 0.626$ ). This result indicates that flooding represents a critical external factor influencing the resilience of MSME households. Flood-related disasters can damage business and household assets, disrupt production and distribution activities, reduce income, and increase recovery costs. Consistent with the findings of (Memon, M H., Ali, M., Khalil, 2020) households in flood-prone areas often rely on income diversification and other adaptive measures to reduce vulnerability and sustain economic stability following disaster-related losses. These results suggest that the economic resilience of MSME households is shaped not only by exposure to external shocks but also by their ability to adapt and respond effectively to adverse conditions. While flooding creates substantial economic pressures, households with stronger financial capability and well-developed coping strategies are generally better prepared to manage disruptions and recover from losses. Therefore, financial capability can be viewed as an important internal resource that enhances adaptive capacity and supports resilience in disaster-prone environments.

### **Financial Capability as a Determinant of Household Coping Strategy of MSME Actors**

The findings demonstrate that financial capability, encompassing financial attitude, financial knowledge, financial skills, and financial behavior, contributes positively to the development of coping strategies among MSME households. Financial capability is increasingly viewed as an essential resource for strengthening household resilience, as it enhances the ability to anticipate potential risks, assess available options, and make sound financial decisions under uncertain conditions (Lusardi et al., 2021). The results suggest that stronger financial capability equips households with greater capacity to respond effectively to economic challenges and external shocks. Among the dimensions examined, financial behavior exhibited the strongest effect on coping strategies ( $\beta = 0.361$ ), followed by financial knowledge ( $\beta = 0.321$ ), financial skills ( $\beta = 0.197$ ), and financial attitude ( $\beta = 0.131$ ).

From the Behavioral Finance perspective developed by Thaler, individuals do not always act based on perfect rationality as assumed in classical economic theory. Financial decisions are more influenced by habits, experiences, risk perceptions, and behavioral patterns formed in everyday life. Therefore, even if someone has good financial knowledge, their ability to survive economic pressures is largely determined by how that knowledge is translated into concrete actions such as saving, controlling consumption, keeping financial records, and preparing an emergency fund. The dominant influence of financial behavior in this study indicates that the economic resilience of MSME households is built more through consistent financial practices than solely through conceptual understanding of finance. This finding aligns with the (OECD/INFE, 2020), which places financial behavior as a key component in its financial capability framework because it directly impacts individual well-being and financial resilience.

Meanwhile, the positive influence of financial knowledge indicates that understanding financial concepts helps MSMEs identify alternative solutions when faced with limited economic resources. Knowledge of debt management, savings, investments, and risk management enables individuals to make more effective decisions in the face of crises. On the other hand, financial skills and financial attitudes also contribute to the development of coping strategies. Technical skills in managing finances and a positive attitude toward future planning encourage individuals to be better prepared to face various forms of economic shocks. Therefore, financial capability may be viewed as an integrated set of competencies that enables MSME households to adjust more effectively to changing economic circumstances and unexpected financial pressures. Recent evidence also confirms that financial capability contributes to household economic resilience by improving financial decision-making, resource management, and adaptive responses during periods of economic uncertainty (Xie et al., 2026). Similarly, (Hasler et al., 2023) found that financial literacy plays a critical role in strengthening household resilience and well-being during periods of economic disruption, highlighting the importance of financial capability as a protective factor against external shocks.

### The Role of Coping Strategies in Increasing Economic Resilience

The results showed that coping strategies had a positive effect on economic resilience ( $\beta = 0.476$ ). This finding indicates that households' ability to develop adjustment strategies contributes to increased economic resilience. This finding is consistent with (Do, 2023), who demonstrates that savings utilization and income diversification constitute important resilience strategies that enable households to maintain economic stability under adverse conditions. This finding supports the study of (Ansah et al., 2021), which demonstrates that households facing multiple economic and environmental shocks rely on coping strategies as a key mechanism for maintaining food security and economic stability. Effective coping responses enable households to mitigate adverse impacts and enhance resilience outcomes. (Nguyen, T. T., Nguyen, T. T., & Grote, 2020) also found that households exposed to multiple shocks tend to adopt a combination of coping strategies to sustain their livelihoods. The effectiveness of these strategies largely determines the extent to which households can recover from economic disturbances and maintain resilience.

From a resilience perspective, coping strategies represent behavioral and economic responses adopted by households to reduce vulnerability and maintain stability when confronted with financial challenges. These strategies can include diversifying income sources, reducing non-priority consumption, utilizing savings, borrowing productively, or optimizing existing assets. According to resilience theory, economic resilience depends not only on the availability of financial and productive resources but also on the capacity of households to deploy and reallocate those resources effectively during periods of disruption. Therefore, households with good coping strategies tend to be better able to maintain economic stability even when facing adverse conditions. This finding is consistent with (Wu, Y., Zhang, 2024), who demonstrate that access to financial resources and inclusive financial services strengthens household economic resilience by improving adaptive capacity and supporting productive economic activities during periods of uncertainty.

#### 4. CONCLUSION

This research contributes to the development of Behavioral Finance theory by showing that financial capability is an important determinant of economic resilience among MSME households affected by disasters. The findings suggest that financial behavior plays a more influential role than financial knowledge, skills, or attitudes in shaping adaptive responses to economic shocks. The study also highlights the role of coping strategies as a mechanism through which financial capability is translated into economic resilience. These findings extend the application of Behavioral Finance by demonstrating that resilience depends not only on financial resources but also on how individuals manage and utilize those resources under conditions of uncertainty.

The analysis confirms that financial capability serves as an important resource for enhancing the resilience of MSME households. Of the dimensions examined, financial behavior showed the greatest contribution to adaptive responses, whereas financial knowledge and financial skills played complementary roles. Although financial attitude showed a positive coefficient, its effect on coping strategy was not statistically significant. These findings suggest that improving the economic resilience of MSME households is not sufficient simply through increased access to capital or economic assistance, but also requires strengthening financial behavior, financial literacy, and adaptive capacity in facing various economic risks and disasters. The findings indicate that strengthening household financial capability is an important pathway toward improving resilience outcomes, particularly when supported by broader access to formal financial services. This conclusion is supported by recent cross-country evidence showing that both digital and traditional financial inclusion contribute significantly to financial resilience by enhancing households' ability to manage risks, accumulate precautionary savings, and respond to unexpected economic shocks (Verma & Chatterjee, 2025).

This study has several limitations. This study is limited by its focus on a single flood-prone region and the use of cross-sectional data. Future studies may employ longitudinal data and broader geographical coverage to obtain a more comprehensive understanding of MSME household resilience. Based on the research findings, local governments need to shift the focus research results

show that households with strong financial capability of MSME empowerment programs from capital-based approaches to financial capacity building. Financial literacy programs need to be designed not only to increase knowledge but also to foster healthy financial behaviors, as these variables have been shown to have the greatest influence on coping strategies. Therefore, MSME empowerment programs should place greater emphasis on promoting positive financial habits rather than focusing solely on financial knowledge. Furthermore, local governments need to integrate MSME economic resilience enhancement programs with disaster mitigation policies, particularly in areas with high flood vulnerability. This integration can be achieved through risk management training, the establishment of business emergency funds, the development of disaster response financing schemes, and the provision of microinsurance for MSMEs.

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