



Influence Financial Literacy and Financial Inclusion to Sustainability Performance of MSMEs in Denpasar City with Financial Behavior as an Intervening Variable

Ni Putu Trisna Windika Pratiwi ^{1*}, Cokorda Gde Bayu Putra ², Ni Ketut Muliati ³, Putu Cita Ayu ⁴, Ni Putu Yeni Yuliantari ⁵ 

Accounting, Hindu Indonesia University, Denpasar, Indonesia

ARTICLE INFO

Article history:

Received: 2025-08-22

Revised: 2025-09-29

Accepted: 2025-10-15

Available Online: 2025-12-29

Keywords:

Financial Literacy; Financial Inclusion; Financial Behavior; MSME Sustainability Performance

DOI:

<https://doi.org/10.38043/jiab.v10i2.7311>

ABSTRACT

Recession economy is threats faced by many countries, esp after various turmoil economy global Which happen in a number of decade Lastly , the sustainability of Micro , Small, and Medium Enterprises (MSMEs) is key in support economy local , especially in the middle global challenges such as predicted recession occurred in 2025. Research This aim for analyze influence financial literacy and financial inclusion to performance sustainability of MSMEs with financial behavior as *intervening* variable. population in study This is MSME actors who run business in Denpasar City with amount 32,776 units business. method taking samples in research This is *probability sampling* with technique *Proportionate Stratified Random sampling* ie techniques used when population have members / elements that are not homogeneous and stratified in a way proportional , with amount sample as many as 100 MSME actors in Denpasar City . Method data analysis used in study This that is apply method *Structural Equation Model* based *Partial Least Square* (PLS) with help SmartPLS. Research results state that in a way partial financial literacy and financial inclusion influential positive and significant to financial behavior. In terms of partial financial literacy, financial inclusion, and financial behavior influential positive and significant to performance sustainability of MSMEs. For effect mediation, results study state that financial behavior capable mediate influence financial literacy and financial inclusion to performance sustainability of MSMEs.

This is an open access article under the [CC BY-SA](#) license.



1. INTRODUCTION

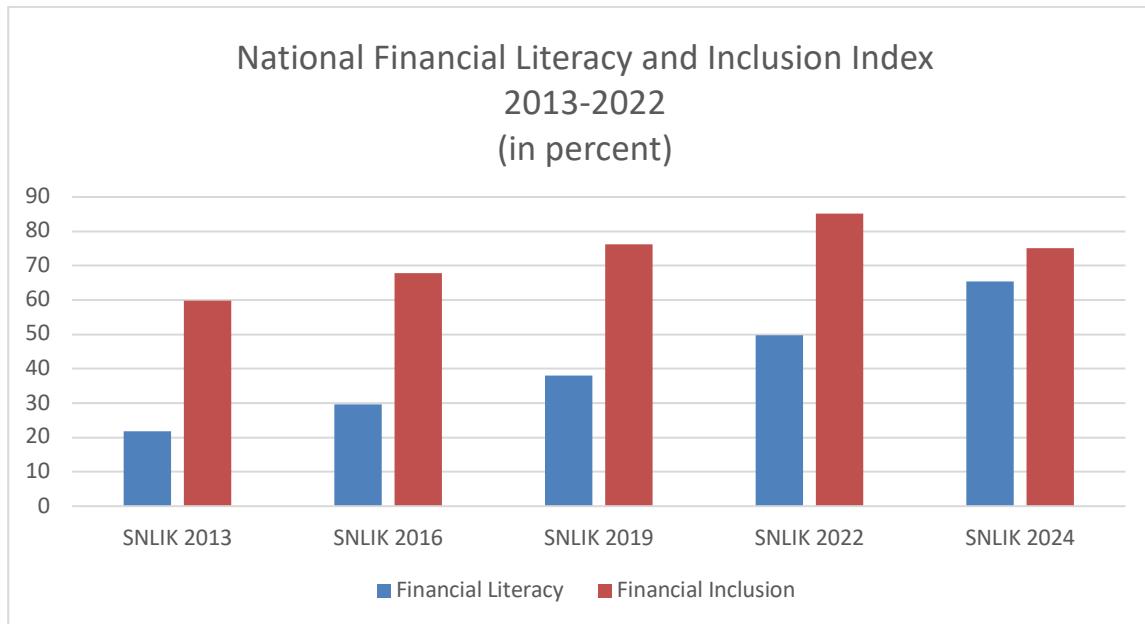
One sector that makes a significant contribution to economic growth and development in Indonesia is Micro, Small, and Medium Enterprises (MSMEs). MSMEs are trading business units run by private individuals. by individual or body business, play a role in support economy through creation field Work new Which help reduce level unemployment. Besides In addition, MSMEs are also one of the business groups with the largest number in Indonesia and have proven to be capable endure from various crisis economy (Japa et al., 2023) . Since beginning year 2020, a prolonged pandemic has the potential to cause economic conditions, both at the national level macro and micro, become less stable, which indicates the presence of decline activity economy. Pandemic COVID-19 Also bring threat Serious for micro-enterprises, especially in the context of the global recession that has the potential to continue to haunt the world (Sudiro, 2024) .

Economic recession is a threat faced by many countries, especially after various turmoil economy global Which happen in a number of decade final. The potential for a global economic recession in 2025 is increasingly apparent. According to data from the Central Statistics Agency (BPS), the COVID-19 pandemic that struck in early 2020 has had a significant impact, triggering a prolonged economic slowdown. Indonesia's economic growth even contracted by -2.07% due to the pandemic, reflecting the country's economic vulnerability to global pressures (Koran hybrid Belitung Express.com, 2024). To remain competitive, MSMEs, as one of the business groups driving the community's economy, need to pay close attention to their business performance and sustainability.

Sustainability performance is the measurement of an organization's performance across sustainability-related aspects, including environmental, social, and economic aspects. This performance encompasses how the organization manages its business impacts on the environment, social well-being, and its contribution to sustainable economic growth. (Kocmanová et al., 2016) stated that corporate sustainability performance is a multidimensional concept based on the initial idea of sustainability, replacing the traditional understanding of corporate performance that only represents appreciation to capital owners. Sustainability performance usually refers to the *Triple Bottom Line* (TBL) concept, which includes financial profit, environmental protection, and

social responsibility (Rosati & Faria, 2019). Actual sustainability performance is very important because it is seen as a corporate strategy used as the best business technique for current and future needs. Sustainability performance is a form of accountability and communication of how company activities contribute positively or negatively to sustainable development (Spallini et al., 2021). To be able to survive in increasingly fierce competition, MSMEs must pay attention to their financial management as a crucial aspect in improving performance and maintaining their business continuity.

Good financial management can be achieved if business owners possess the skills and knowledge to manage their finances (Sugiharti & Maula, 2019). This presents a significant challenge for businesses in developing countries in acquiring knowledge of financial information and accessing adequate financial services for their business growth. MSMEs play a significant role in addressing the global recession because they have contributed greatly to Gross Domestic Product (GDP) (djkn.kemenkeu.go.id, 2024).



Source : Financial Services Authority (OJK), 2025

Figure 1. Level Literacy And financial inclusion National

Based on Figure 1, data from the 2024 National Survey on Financial Literacy and Inclusion (SNLIK) shows an increase in Indonesian financial literacy to 65.43%. However, the financial inclusion index has decreased to 75.02%. This reflects that although people are increasingly understanding financial concepts, access to broader economic opportunities remains a barrier. This presents a challenge for MSMEs in maintaining their business continuity. To thrive, MSMEs must possess sound financial management skills and be able to seize opportunities to utilize available financial access.

Bali, renowned for its tourism, is one of the provinces most vulnerable to the impacts of the global recession. Bali's heavy reliance on the tourism sector makes its economy vulnerable to instability if a recession actually occurs, potentially leading to a repeat of the impact of the COVID-19 pandemic. Looking back at the COVID-19 pandemic in Bali, many MSMEs emerged, successfully revitalizing the Balinese economy at a time when tourism was in decline. Many MSMEs have thrived to this day.

Denpasar City is a city with average its population Work as trader and also entrepreneurship. The potential of MSMEs in the city Denpasar can be seen from amount business actors who continue to increase and has contributed to the absorption workforce in Denpasar City. Denpasar City, as the capital of Bali Province, can be said to be the center of government activities and tourism in Bali, making Denpasar a hub for the growth and development of MSMEs. Denpasar City has a diverse range of MSMEs, with more than seven types of MSMEs recorded across four districts within the city. The following is data on MSMEs per district in Denpasar City.

Table 1. Number of MSMEs per Subdistrict in Denpasar City in 2024

No	Sector	Subdistrict			
		Denpasar South	Denpasar East	Denpasar West	Denpasar North

1	Culinary	2991	1631	3758	2541
2	Fashion	2045	1183	3140	1540
3	Education	74	69	170	130
4	Otomotif	536	733	852	560
5	Agrobisnis	859	463	1196	3535
6	Technology	367	97	275	320
7	Others	1013	563	1048	1087
Total		7885	4739	10439	9713
			32776		

Source : Service cooperative And MSMEs City Denpasar, 2025

Based on Table 1., it can be seen that in Denpasar City there are 4 sub-districts with a significant distribution of MSMEs with various types of businesses in 2024. Overall, amount MSMEs reach 32,776 unit. From amount the, Subdistrict West Denpasar is an area with amount The largest number of MSMEs, namely 10,439 units. This indicates that West Denpasar District has more dominant economic potential than other districts. And almost every year, the number of MSMEs in Denpasar City increases across various sectors, from small businesses to medium- and large-scale businesses. The development of the number of MSMEs by subsector can be seen in Table 3.

Table 2. Development amount MSMEs based on sub sector in Denpasar City 2020-2024

No	Sector	Amount			
		2020	2021	2022	2023
1	Culinary	9679	10712	10714	10814
2	Fashion	8166	7666	7815	7865
3	Pendidikan	453	443	443	443
4	Otomotif	2781	2681	2681	2681
5	Agrobisnis	6153	6053	6053	6053
6	Teknologi Internet	1174	1074	1059	1059
7	Other	3820	3697	3711	3711

Source : Service Cooperative and MSMEs City Denpasar, 2025

Based on Table 2. in the last five years, several sectors have experienced fluctuations every year. Along with with development MSMEs in various business sector, progress This won't maximum If for perpetrator MSMEs No wise in manage finance they, starting from the planning stage to decision making. In addition to the ability to work, skills in optimize income as well as manage it in a way effective And Efficiency is also an important factor that influences the success of the business performance being run.

MSMEs in Denpasar City play a crucial role as one of the largest contributors to foreign exchange in the tourism sector, particularly in Bali Province. The development of local culture-based development has made Bali a popular tourist destination. tour Good overseas country and domestic. The development tourism sector will also influence economic development, including MSMEs. Micro, Small, and Medium Enterprises (MSMEs) in the Denpasar area have increased year after year. The high growth MSMEs in Denpasar have impact positive from aspect employment absorption, equitable development and its results, particularly in the economic sector, and increasing regional gross domestic income.

The impact of the recession is significant for MSMEs in Denpasar City for several key reasons. First, Denpasar has the largest number of MSMEs in Bali, many of which rely on the tourism sector. During a recession, decreased consumption and tourism visits reduce the turnover of MSMEs that rely on tourists. Second, many MSMEs in Denpasar struggle to survive the recession due to a lack of financial reserves, access to financing, and poor financial management. MSMEs that have not yet adopted technology are also more vulnerable to economic changes. Third, the development of the tourism sector in Bali is closely linked to MSMEs in Denpasar. A recession that reduces tourism visits can harm MSMEs, reduce labor absorption, and slow economic development.

With the issue global economic recession in year 2025 For can maintain and increase income, it is necessary to have an understanding to literacy good finances so that you can become Wrong One determinant key for performance sustainability MSMEs in Denpasar. Organization Service Finance (SNLIK OJK 2024) affirmed If moment This, ability individual in understand And manage finance Intelligent financial management has become an unavoidable skill, crucial for wise financial planning and management to achieve sustainable financial well-being. Therefore, improving financial literacy among Micro, Small, and Medium Enterprises (MSMEs) is essential to supporting continued economic growth and sustainability.

This research focuses on factors that influence the sustainability performance of MSMEs. One of the key factors for business success is the importance of literacy. finance for perpetrator Business Micro, Small, And Intermediate (MSMEs). Literacy this finance very needed for support management, operational, as well as development small business the (Utami & Abdullah, 2024) . Financial literacy influences how a person understands their financial situation, makes strategic decisions regarding finances, and manages a business more efficiently. Increasing financial literacy shows existence repair in management finance. Good financial literacy will help MSMEs manage their finances, enabling them to compete competitively and achieve sustainable performance . This in line with Research by (Nopiyani & Indiani, 2023) (Nurjanah et al., 2022) and (Japa et al., 2023) states that individuals with higher levels of financial literacy, including an understanding of finance and investment, tend to implement more effective financial management practices. in business they, Which on Finally can increase performance finance. In addition, this capability also plays an important role in reducing the risk of bankruptcy or closure. business. Financial literacy Which Good participate support sustainability MSMEs by helping entrepreneurs face economic challenges, maintain operational continuity, and encourage sustainable business growth. However, this research contradicts research (Lubis & Nurhayati, 2024) , which found that financial literacy has a negative and significant impact on the sustainable performance of MSMEs. Research (Fitria, 2024) stated that financial literacy has no influence on the sustainability performance of MSMEs.

Besides financial literacy, another factor that can influence the sustainable performance of MSMEs is financial inclusion. Financial inclusion is an effort to ensure that business actors have broader and easier access to the financial services needed to support business performance and sustainability. MSMEs are expected to be skilled in utilizing financial services, products, and services to strengthen their capital and thus compete effectively. Research results (Suyono & Zuhri, 2022) and (Safitri & Chamalinda, 2024) indicate that financial inclusion has a positive effect on MSME performance and sustainability. This contrasts with the results of research (Ardianto et al., 2024) which found that financial inclusion had no effect on MSME performance and sustainability.

The differences in previous research findings indicate that other factors may influence the relationship between financial literacy and financial inclusion on the sustainability performance of MSMEs. Financial behavior emerges as a result of a person's high motivation to meet their living needs, which is in line with their income. resources based view This study explains that MSMEs can achieve sustainable competitive advantage based on the resources they have. MSME actors with competitive financial behavior Which positive play a role important in Supporting the sustainable performance of MSMEs allows for more effective resource management , effective access to financial services, increased resilience to market challenges, and driven stable and sustainable business growth. Furthermore, MSMEs play a crucial role in driving a country's economic progress, including in Indonesia. However, the situation becomes different if an individual has poor financial skills or poor financial behavior. Condition the can impact negative on time front business they, like in terms of maintaining the quality of financial reports and budget management. This is in line with research by (Rusnawati & Saharuddin, 2022) , (Nopiyani & Indiani, 2023) , and (Nurjanah et al., 2022) stated that financial behavior has a positive impact on the sustainability performance of MSMEs. This research shows that the financial behavior of business actors needs to be continuously maintained or improved, because improving financial behavior can improve the performance of MSMEs. in management finance, actors business will more capable manage manage finances well and optimize company profits through structured financial planning. This study aims to analyze the influence of financial literacy and financial inclusion on the sustainability performance of MSMEs with financial behavior as an intervening variable.

MSMEs that are able to make wise financial decisions will find it easier to prioritize their own business needs. Understanding financial literacy enables MSMEs to manage their finances wisely. A sound knowledge of financial management will encourage MSMEs to have good financial behavior, by maximizing revenue and minimizing expenses. Therefore, better financial management will result in high financial literacy. Research (Hijir, 2022) and (Sintiani et al., 2025) found that financial literacy has a positive and significant effect on financial behavior. Based on the above description, the following hypothesis can be drawn:

H1: Financial literacy has a positive and significant influence on financial behavior

MSMEs with a high level of financial inclusion will have better financial behavior than MSMEs with a low level of financial inclusion. According to (Panchasara & Sharma, 2019) , understanding financial inclusion promotes a better understanding of the psychological and social determinants of financial behavior. By providing access to several financial products and services such as saving or depositing money, applying for loans, developing assets, or investing, it can make it easier for MSMEs to use these products and conduct financial transactions, thereby improving the management of their business capital and finances to improve business performance and sustainability. Research (Setiawan & Faisal, 2024) states that financial inclusion has a positive

and significant impact on financial behavior. Based on the description above, the following hypothesis can be drawn:

H2: Financial inclusion has a positive and significant influence on financial behavior

Financial literacy can be interpreted as level knowledge, skills, and trust self. Knowledge Which owned will influence attitude And behavior, Which on This in turn improves the quality of decision-making and financial management to achieve prosperity. There is a significant relationship between financial literacy and the performance experienced by entrepreneurs. Logically, this relationship applies to companies with good financial literacy, as they are able to strategically identify and respond to challenges. change in climate business, economy, And finance (BP Sari et al., 2022) . This enables decision-making that results in innovative and targeted solutions, ultimately improving performance and supporting business sustainability. Using the *Resource-Based View theory* , it can be said that financial literacy is a strategic resource that can improve the sustainability performance of MSMEs. With high financial literacy, MSMEs can manage finances more effectively, make strategic decisions that support sustainability, and create a competitive advantage that is difficult for competitors to imitate. Therefore, investing in improving financial literacy is crucial to ensuring the long-term sustainability of MSME businesses . Matter Which The same Also stated on study (Rumini & Martadiani, 2020) , (Hilmawati & Kusumaningtias, 2021) and (Kusuma et al., 2022) which state financial literacy influential positive impact on the sustainability performance of MSMEs . Based on the description above, the following hypothesis can be drawn:

H3: Financial literacy has a positive and significant impact on the sustainability performance of MSMEs

Financial inclusion is essential for MSMEs to facilitate every aspect of their business processes. Capital is one of the key factors supporting a business. (Idawati & Pratama, 2023) stated that the problems often faced by MSMEs are related to capital and marketing processes. These problems can be overcome by facilitating access to financial services. Ease of access to financial institution services will make it easier for the public and business actors to obtain capital to carry out every business process (Alimi & Indriani, 2018) . Based on the results of research conducted by (Suyono & Zuhri, 2022) and (Idawati & Pratama, 2023) , financial inclusion has a positive effect on MSME performance and business continuity. These research results are in line with research conducted by (Safitri & Chamalinda, 2024) which states that financial inclusion has a positive effect on MSME performance and sustainability . Based on the description above, the following hypothesis can be drawn:

H4: Financial inclusion has a positive and significant impact on the sustainability performance of MSMEs

Financial behavior is the ability to understand the overall impact of financial decisions on one's situation and make appropriate decisions regarding cash management, preventative measures, and budget planning opportunities. Financial behavior relates to how a person treats, manages, and utilizes resources. Power his finances, as well as show not quite enough answer Which effective in use of funds Which owned by him (Japa et al., 2023) . Financial behavior become Wrong One aspect important for business progress, because it helps measure company performance, separate personal assets And business, know position finance, as well as compile budget in a way accurate for business sustainability. The *Resource-Based View theory* can be used to explain how financial behavior influences the sustainability performance of MSMEs. Within the RBV framework, financial behavior is seen as the concrete implementation of MSMEs' internal resources, particularly in the management of financial resources. This behavior determines how these resources are organized and utilized to achieve sustainability. The same thing was also stated in research (Rusnawati & Saharuddin, 2022) (Nopiyani & Indiani, 2023) Which state financial behavior influential positive to performance MSMEs, And influential Also For sustainability business. Based on the description above, the following hypothesis can be drawn:

H5: Financial behavior has a positive and significant impact on the sustainability performance of MSMEs

Financial behavior is the ability to understand the overall impact of financial decisions on one's situation and make appropriate decisions regarding cash management, preventative measures, and budget planning opportunities. Financial behavior relates to how a person treats, manages, and utilizes resources. Power his finances, as well as show not quite enough answer Which effective in use of funds Which owned by him (Japa et al., 2023) . Financial behavior become Wrong One aspect important for business progress, because it helps measure company performance, separate personal assets And business, know position finance, as well as compile budget in a way accurate for business continuity. By having good financial literacy, your knowledge Which owned will influence attitude And a person's behavior in managing finances so as to improve the quality of decision making to achieve welfare and sustainable performance. In addition, MSMEs that have access to good financial products and services will have better opportunities in managing their business finances and this will have an impact on a person's behavior in managing their finances. thus improving the quality of decision-making to achieve well-being and sustainable performance. *Resource-Based View theory* can be used to explain how financial behavior influences the relationship between financial literacy and financial inclusion and the sustainability performance of MSMEs. Within the RBV framework, financial behavior is seen as the concrete implementation of MSMEs' internal resources, particularly in the management of financial resources. This behavior determines how these resources are organized and utilized to achieve sustainability.

H6: Financial behavior capable mediate influence financial literacy to sustainability performance of MSMEs.

H7: Financial behavior capable mediate influence financial inclusion to sustainability performance of MSMEs.

2. METHOD

The approach used in study This is quantitative approach quantitative chosen Because in researcher data processing use calculation standard statistics and present results in form number (Cresswell, 2013) . Research This use design study associative Because study This want to measure influence financial literacy and financial inclusion to performance sustainability of MSMEs mediated by financial behavior.

The dependent variable in this study is MSME Sustainability Performance (Y). MSME sustainability performance refers to the extent to which micro, small, and medium enterprises (MSMEs) can maintain And develop its operations in a way sustainable, both from economic, social, and environmental aspects. Research on sustainability performance MSMEs often time focus on How MSMEs integrate principles sustainability in strategy And activity they For face challenge This study uses indicators from Syuhada & Auly (2022) , which describe three sustainability performance indicators: business continuity, social development continuity, and environmental continuity.

In this study, the independent variables are: Financial Literacy (X1) and Financial Inclusion (X2). According to (Fitria et al., 2021) , financial literacy refers to an individual's ability to accurately assess information and make effective decisions regarding the use and management of finances. To measure the financial literacy variable, a questionnaire was used . indicators of (Fitria et al., 2021) explains three indicators of financial literacy: investment, insurance, and budget planning. The second independent variable is financial inclusion. Financial inclusion refers to the availability of access to various financial institutions, products, and services according to the community's needs and abilities, aimed at improving community well-being. According to (Sanistasya et al., 2019), there are four indicators of financial inclusion: Access to financial institutions (Access), Use of financial products/services (Usage), Quality of financial products and services (Quality) and Customer welfare (Welfare) .

intervening variable in this study is Financial Behavior (M). According to (Fitria, 2024) , financial behavior financial Which Good covers ability For take Financial decisions that can increase wealth and reduce uncertainty in business and individual life. The behaviors of business actors include responsibility for organizing, managing, controlling, seeking, and saving the money they have to advance the business and ensure it remains competitive in the future. Measurement of financial behavior variables using indicators from (Suhendar, 2021) Which explain 5 indicator financial behavior that is: Use funds, determine sources of funds, risk management, preparing financial plans, and planning for the future.

Study This including research that uses quantitative data types Where researchers can determine only a number of variables just from object of research Then can make instrument For measure it that is in the form of questionnaire . Data sources used in research This is primary data sources that are direct obtained by researchers from distributed questionnaires (Sugiyono, 2013) .

According to (Sugiyono, 2013) Population is a generalized area consisting of objects/subjects Which have quality And characteristics certain Which set by Researchers will study the data and draw conclusions. Therefore, the population in this study is 32,776 MSMEs operating in Denpasar City. The sampling method in this study is *probability sampling* with the *Proportionate Stratified Random sampling technique* , namely a technique used when the population has members/elements that are not homogeneous and proportionally stratified. Determination of the amount sample from population determined using slovin with a level 10% error , so that 100 samples of MSME actors were obtained.

A way of processing collected data to then be able to provide an interpretation of the results of data processing that are used to answer the problems that have been formulated. The data analysis method used in this study is to apply the *Structural Equation Model method* based on *Partial Least Square* (PLS) with the help of SmartPLS using the *bootstrapping method* or multiplication. random. Model measurement Which used, that is model measurement or *outer model* and the *structural model* or *inner model* . Both are evaluated in PLS-SEM to assess the validity and reliability of a model (Sari & Pramuki, 2021) .

3. RESULTS AND DISCUSSION

MSMEs are an abbreviation for Micro, Small, and Medium Enterprises. Essentially, MSMEs are businesses run by individuals, groups, small businesses, or households. As a developing country, Indonesia has made MSMEs the primary foundation of its economic sector. This is done to encourage the ability of independence in developing communities, especially in the economic sector. The development of MSMEs in Indonesia continues to improve in terms of quality, this is due to strong support from the government in the development carried out for MSME entrepreneurs, which is crucial in anticipating future economic conditions and maintaining and strengthening the national economic structure.

In this study, respondents who are MSME actors in Denpasar City are predominantly male, namely 51 percent and female as much as 49 percent. MSME actors in Denpasar City who are respondents in this study predominantly have an age range of more than 50 years as much as 38 percent, 41-50 years as much as 27 percent, 31-40 years as much as 20 percent and the remaining 15 percent are respondents with an age range of 20-30 years. MSME actors in Denpasar City mostly have a business period in the range of 4-6 years as much as 65 percent, a business period of 1-3 years as much as 30 percent and the least in the business period of more than 6 years as much as 5 percent. The type of MSME business in Denpasar City who are respondents to this study is dominated by micro-scale businesses with a percentage of 58 percent, then small businesses by 39 percent and medium scale by 3 percent.

In analyzing the influence between the independent variables and the mediating variables, *the Partial Least Squares* (PLS) statistical method was used in this study. PLS can test both measurement models and structural models. The measurement model is used to test validity and reliability, while the structural model is used to test causality (hypothesis testing with a predictive model). Evaluation of the measurement model (*outer model*) is applied to all research variables.

Convergent validity testing obtained results estimate *loading factor* shows that the item values generated by the constructs financial literacy, financial inclusion, financial behavior and performance the sustainability of MSMEs has fulfil mark standard *convergent validity* because all over mark *loading factor* more big from 0.70. With thus can concluded that all over construct in study This is valid. The AVE value, which is generated by the constructs financial literacy, financial inclusion, financial behavior and performance the sustainability of MSMEs has fulfil mark standard *convergent validity* because all over AVE value is higher big from 0.50, based on AVE value can concluded that all over construct in study This is valid.

In discriminant validity testing , seen from l results analysis *cross loading* from construct X1, X2, M to with Y, proving that main *outer loading* more big compared to with distribution *outer loading* outside the main *outer loading* on each construct , so that can concluded that instrument study This own level valid measurement . Based on (Henseler et al., 2015) , criteria For get ratio *Heterotrait-Monotrait* is of 0.85, so that if distribution ratio *Heterotrait-Monotrait* more small from 0.85 can considered construct formed from instrument valid research . Based on distribution ratio between related constructs , not obtained higher ratio value big from 0.85, so that all over construct can stated own instrument valid measurement .

Based on reliability test results known that distribution mark *Cronbach's Alpha* and *Composite Reliability* for each construct is more big from 0.70, so that can stated that tool measurement used free from problem *random error* (MacKenzie et al., 2011) (Dixon et al., 2016) .

Evaluation *Inner model* covers two matter the main thing , namely evaluation goodness of *fit* and evaluation influence variables exogenous to endogenous variables through testing hypothesis . Evaluation influence covering influence direct and influence mediation . Evaluation goodness of *fit* and evaluation influence variables exogenous to endogenous variables refer to *the SEM PLS output*. In the test structural model evaluation will done a number of type testing including testing (1) *R-Square* (R^2), (2) *Q-Square Predictive Relevance* (Q^2), and (3) *Goodness of Fit* (*GoF*) .

R-square value financial behavior of 0.668; based on criteria Chin , then the model including criteria model moderate approach strong , its meaning is literacy variations finance and financial inclusion is able to explain variations in behavior financial performance of 66.80 percent, the remaining 33.20 percent is explained by variations in other variables outside the analyzed model. Meanwhile, the sustainability performance of MSMEs has an *R-square value* of 0.626 or is moderate approaching strong, meaning that the variation in financial literacy , financial inclusion and financial behavior able to explain performance variations The sustainability of MSMEs is 62.60 percent, the remaining 37.40 percent is explained by variations outside the model.

For size mark *Q-Square* in study This is $= 1 - (1 - R^2_1) (1 - R^2_2)$ then $1 - (1 - 0.668) (1 - 0.626) = 1 - 0.124 = 0.876$, based on results the then the resulting model estimate including in criteria strong , meaning 87.60% variation endogenous construct (performance sustainability of MSMEs) can predicted by variation construct exogenous (financial literacy , financial inclusion , and financial behavior). Calculation with *GoF* show mark average *R-square* is 0.647 while the average AVE is 0.667 , then the *GoF* value is $\sqrt{A.R^2 * A.AVE} = \sqrt{0.647 * 0.667} = \sqrt{0.432} = 0.657$, meaning the global model is large predictive model. The *model* used in estimate show a good model (*fit model*).

Test results in a way statistics influence direct *effects* between variables can seen in Table 3. Meanwhile, the results of statistical testing of indirect effects are presented in Table 4 .

Table 3. Statistical Results Direct Influence between Research Variables

Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
---------------------	-----------------	----------------------------	--------------------------	----------

Financial Inclusion (X2) -> Sustainability Performance (Y)	0.324	0.332	0.116	2,796	0.006
Financial Inclusion (X2) -> Financial Behavior (M)	0.626	0.609	0.094	6,631	0.000
Financial Literacy (X1) -> Sustainability Performance (Y)	0.150	0.147	0.050	3,026	0.003
Financial Literacy (X1) -> Financial Behavior (M)	0.340	0.342	0.093	3,654	0.000
Financial Behavior (M) -> Sustainability Performance (Y)	0.425	0.394	0.137	3,096	0.003

Source : processed data (2025)

Based on Table 3. of five tests research hypothesis for direct effects *between* research variables The results obtained show that there is a positive and significant influence on the relationship between the variable . This is indicated by the value T - *statistic* > 1.96 and value p - *value* < 0.05 .

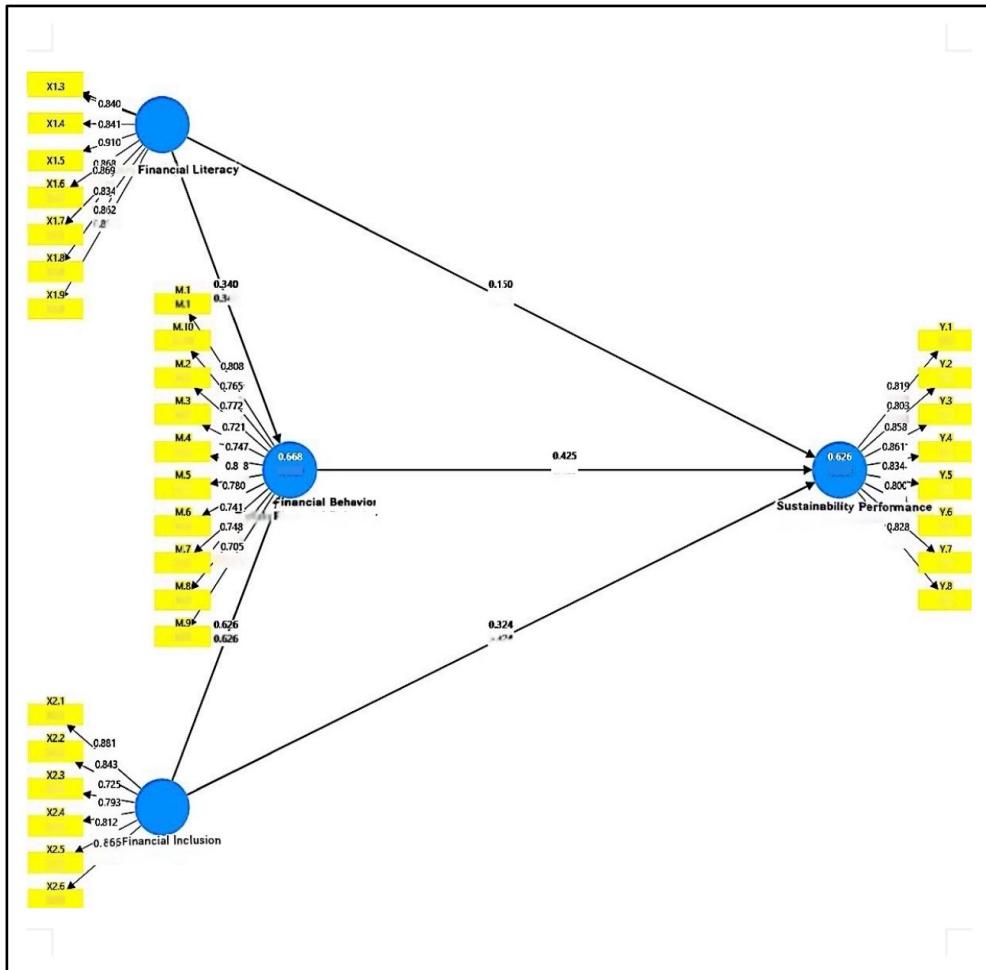
Table 4. Statistical Results Influence No Direct Delivery Research Variables

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Financial Inclusion (X2) -> Financial Behavior (M) -> Sustainability Performance (Y)	0. 266	0. 238	0. 086	3,094	0.00 3
Financial Literacy (X1) -> Financial Behavior (M) -> Sustainability Performance (Y)	0. 144	0. 140	0.0 71	2,022	0.0 46

Source : processed data (2025)

Based on Table 4. Testing research hypothesis for the influence of no direct *effects between* research variables The results obtained show that there is a positive and significant influence on the relationship between the variable . This is indicated by the value T - *statistic* > 1.96 and value p - *value* < 0.05 .

Complete overview from relation between construct with estimate *path* from construct related presented in Figure 2.



Source : processed data (2025)

Figure 2. Analysis Results Bootstrapping the Research Model

Financial literacy (X1) has an effect positive of 0.340 against financial behavior (M) and relationships the significant at the 0.05 level (p-value $0.000 < 0.05$) because T-statistic value is greater big from 1.96, namely 3.654. Based on description the so hypothesis 1 in study This that is financial literacy influential positive and significant to Behavior The finances of MSMEs in Denpasar City. The results found that there is influence positive and significant between connection variables financial literacy to financial behavior MSME actors in Denpasar City. That the more Good literacy owned finances so MSME actors will also own behavior good finances . MSMEs that are capable make decision wise finances will experience convenience in prioritize need his business alone . Understanding related financial literacy enable MSMEs to manage wise finances. Good knowledge on management owned finances MSME actors in Denpasar City will encourage MSMEs to own behavior good finances , with capable maximize income and minimize the burden incurred . The research results obtained in line with a number of results study previously that is (Hijir, 2022) and (Sintiani et al., 2025) find financial literacy influential positive and significant to financial behavior .

Financial inclusion (X2) has an effect positive of 0.626 against financial behavior (M) and relationships the significant at the 0.05 level (p-value $0.000 < 0.05$) because T-statistic value is greater big from 1.96, namely 6.631. Based on description the so hypothesis 2 in study This that is financial inclusion influential positive and significant to Behavior Financial situation of MSMEs in Denpasar City. Test results find that there is influence positive and significant between connection variables financial inclusion to financial behavior MSME actors in Denpasar City. That the more Good access owned MSME actors in Denpasar City towards various product as well as service finance so MSME actors will also own behavior good finances . According to (Panchasara & Sharma, 2019) , understanding financial inclusion reflected in the ability promote with more Good understanding about determinant psychological and social from financial behavior . With availability access to several products and services finance like save or save money, apply loans , develop asset or invest so can make things easier MSME actors in use product said and do transaction finance , so that can increase capital and financial management his business For effort improvement performance and sustainability business . Research results This in line with

findings from study ([Setiawan & Faisal, 2024](#)) which states that financial inclusion have impact positive and also significant to financial behavior .

Financial Literacy (X1) has a positive effect of 0.150 on the Sustainability Performance of MSMEs (Y) and the relationship is significant at the 0.05 level (p-value $0.003 < 0.05$) because the T-statistic value is greater than 1.96, namely 3.026. Based on this description, hypothesis 3 in this study, namely Financial Literacy has a positive and significant effect on the Sustainability Performance of MSMEs in Denpasar City. The results of testing the third hypothesis found that there is a positive and significant influence between the relationship between financial literacy variables. on the sustainability performance of MSMEs in Denpasar City. That the better the knowledge and understanding possessed In financial management , MSMEs will tend to have good sustainable performance . Financial literacy can interpreted as level knowledge, skills, and trust yourself in managing finances . Knowledge Which owned will influence attitude And behavior, Which on This in turn improves the quality of decision-making and financial management to achieve prosperity. There is a significant relationship between financial literacy and the performance experienced by entrepreneurs. Logically, this relationship applies to companies with good financial literacy, as they are able to strategically identify and respond to challenges. change in climate business, economy, And finance ([Sari et al., 2022](#)) . This enables decision-making that results in innovative and targeted solutions, ultimately improving performance and supporting business sustainability.

Financial Inclusion (X2) has a positive effect of 0.324 on the Sustainability Performance of MSMEs (Y) and the relationship is significant at the 0.05 level (p-value $0.006 < 0.05$) because the T-statistic value is greater than 1.96, namely 2.796. Based on this description, hypothesis 4 in this study, namely Financial Inclusion has a positive and significant effect on the Sustainability Performance of MSMEs in Denpasar City. The results of testing the fourth hypothesis found that there is a positive and significant influence between the relationship between financial inclusion variables. on the sustainability performance of MSMEs in Denpasar City. That the better the access they have With the development of products and services in financial management , MSMEs will tend to have good sustainable performance . MSMEs need financial inclusion to facilitate every aspect of their business processes. Capital is one of the key factors supporting a business. ([Idawati & Pratama, 2023](#)) stated that the problems often faced by MSMEs are related to capital and marketing processes. These problems can be overcome by facilitating access to financial services. Ease of access to financial institutions will make it easier for the public and business actors to obtain capital to carry out every business process ([Alimi & Indriani, 2018](#)) . Adequate capital distributed to MSMEs will help MSMEs develop their businesses and increase their chances of achieving good performance and business continuity.

Financial behavior (M) is influential positive of 0.425 on the Sustainability Performance of MSMEs (Y) and the relationship the significant at the 0.05 level (p-value $0.003 < 0.05$) because T-statistic value is greater big from 1.96 , namely 3.096 Based on description the so hypothesis 5 in study This that is Financial behavior influential positive and significant to on the Sustainability Performance of MSMEs in Denpasar City. The test results hypothesis fifth find that there is influence positive and significant between connection variables financial behavior to performance sustainability MSMEs in Denpasar City. That the more Good management and utilization source Power owned finances so MSMEs will tend own performance good sustainable behavior . Finance is ability For understand impact overall from decision finance to condition somebody as well as make the right decision in cash management , steps prevention , and opportunities planning budget . Financial behavior related with method somebody treat , manage , and utilize source Power his finances , as well as show not quite enough answer Which effective in use of funds Which owned by him ([Japa et al., 2023](#)) . Financial behavior become Wrong One aspect important for progress business, because help measure performance company, separate asset personal And business , know position finance , as well as compile budget in a way accurate For sustainability business . Research results This support the theory *Resource Based View*, financial behavior seen as implementation real from source internal power owned by MSMEs, especially in management source Power finance. Behavior This become determinant How source Power the organized and utilized For reach sustainability . Research results This in line with findings study ([Nopiyani & Indiani, 2023; Rusnawati & Saharuddin, 2022](#)) Which state financial behavior influential positive to performance MSMEs, And influential Also For sustainability business . Can interpreted behavior positive finances play role important in guard stability financial , support growth , and ensure sustainability of MSMEs in face competition and change environment business .

Financial Behavior has a positive mediating role of 0.144 on the influence of Financial Literacy on the Sustainability Performance of MSMEs and the relationship is significant at the 0.05 level (p-value $0.003 < 0.05$) because the T-Statistic value is greater than 1.96 , namely 3.094. Based on these results, the nature of the mediation in this relationship is partial mediation, or it can be stated that Financial Behavior is a partial mediator in the influence of Financial Literacy. on the Sustainability Performance of MSMEs in Denpasar City. The results of testing the sixth hypothesis show that financial behavior has a positive and significant mediating role or it can be stated that financial behavior is only a partial mediator in the influence of financial literacy on performance. The

sustainability of MSMEs in Denpasar City. The better their knowledge of financial management, supported by sound financial behavior, the easier it will be for MSMEs to make sound business decisions and have a greater chance of competing and improving their sustainable performance.

Financial Behavior has a positive mediating role of 0.266 on the influence of Financial Inclusion on the Sustainability Performance of MSMEs and the relationship is significant at the 0.05 level (p-value $0.046 < 0.05$) because the T-Statistic value is greater than 1.96, namely 2.022. Based on these results, the nature of the mediation in this relationship is partial mediation, or it can be stated that Financial Behavior is a partial mediator in the influence of Financial Inclusion on the Sustainability Performance of MSMEs in Denpasar City. The results of testing the seventh hypothesis show that financial behavior has a positive and significant mediating role or it can be stated that financial behavior is only a partial mediator in the influence of financial inclusion on performance. The sustainability of MSMEs in Denpasar City. Better access to financial management products and services, supported by sound financial behavior, will make it easier for MSMEs to make sound decisions for their businesses and have a greater chance of competing and improving their sustainable performance. Financial Behavior is the ability to understand the overall impact of financial decisions on a person's condition and make appropriate decisions regarding cash management, preventative measures, and budget planning opportunities.

4. CONCLUSION

Based on the presentation of the results and discussion of the research findings above, it can be concluded that the five hypotheses related to the direct influence proposed obtained results indicating a positive and significant influence. Where, financial literacy and financial inclusion partially have a positive and significant influence on financial behavior. Furthermore, the results also show that financial literacy, financial inclusion, and financial behavior partially have a positive and significant influence on the sustainable performance of MSMEs. Testing the financial behavior variable as a mediator variable indicates that the financial behavior variable is able to mediate the relationship between financial literacy and financial inclusion on the sustainable performance of MSMEs in Denpasar City.

Furthermore, this study also found the importance of financial literacy and financial inclusion in shaping the financial behavior of MSMEs. Therefore, a strategic policy is needed by the government, specifically the Denpasar City Cooperatives and MSMEs Office, to regularly provide assistance related to MSME financial management. Furthermore, policies and incentives are needed to stimulate business growth and facilitate MSMEs in Denpasar City.

Based on the conclusions above, the suggestions that can be put forward in this study are referring to the research results obtained, it is important for MSMEs in Denpasar City to have good abilities and skills in managing finances so that the management and allocation of owned resources can be carried out effectively. In addition to knowledge, an important factor that must be considered by MSMEs is access to financial management products and services which is also an important concern for MSMEs, by utilizing this access, MSMEs can increase their capital and carry out business development to help their business continuity. The role of the government in this case the Cooperatives and MSMEs Office should be more proactive in issuing policies to help MSMEs in easier access to capital, in addition, government support can also be done by providing guidance to MSMEs on a regular basis, especially in financial management. The results of this study also show opportunities for the addition of other constructs or variables outside the research model. It is recommended to add other variables such as capital structure, business strategy, innovation and external factors such as market competition and government policies and expand the research area such as in Badung Regency where Badung Regency is the center of tourism in Bali, making it interesting to raise the behavior of MSMEs in the regency.

5. BIBLIOGRAPHY

Alimi, LH, & Indriani, A. (2018). *The influence of geographic penetration, demographic penetration, credit account usage, and DPK account usage of commercial banks on MSME credit in Indonesia (Case Study 2012-2016)* . Faculty of Economics and Business.

Ardianto, R., Ramdhani, RF, Dewi, LOA, Prabowo, A., Saputri, YW, Lestari, AS, & Hadi, N. (2024). Digital transformation and anticipation of global economic changes in the banking world. *MARAS: Journal of Multidisciplinary Research* , 2 (1), 80–88.

Ayu Rumini, D., & Martadiani, M. (2020). *The Role of Financial Literacy as a Predictor of MSME Performance and Sustainability in Badung Regency. Inventory: Journal of Accounting* , 4 (1), 53 .

Cresswell, J. (2013). *Qualitative inquiry & research design: Choosing among five approaches*.

Della Sintiani, P., Astarini, DAO, Cahyani, A., & Septian, D. (2025). Quantitative Study of the Influence of Financial Literacy, Lifestyle and Cashless Society on Students' Financial Behavior. *Research, Economics, Accounting and Taxation (Peer)* , 6 (1), 61–76.

Dixon, J. C., Singleton, R., & Straits, B. C. (2016). *The process of social research*. Oxford University Press, USA.

Fitria, I. (2024). The influence of financial literacy, financial attitudes and financial behavior on the performance of MSMEs in Palembang City. *Consumers & Consumption: Journal of Management*, 3 (1), 545–567.

Fitria, I., Soejono, F., & Tyra, MJ (2021). Financial literacy, financial attitudes and financial behavior and MSME performance. *Perbanas Journal of Business and Banking*, 11 (1), 1–15.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43 (1), 115–135.

Hijir, PS (2022). The influence of financial literacy on financial behavior with financial technology (fintech) as an intervening variable in SMEs in Jambi City. *Journal of Applied Management and Finance*, 11 (01), 147–156.

Hilmawati, MRN, & Kusumaningtias, R. (2021). Financial inclusion and financial literacy on the performance and sustainability of the micro, small, and medium enterprise sector. *Nominal: A Barometer of Accounting and Management Research*, 10 (1), 135–152.

Idawati, IAA, & Pratama, IGS (2023). Financial Inclusion and Financial Literacy on the Performance and Sustainability of MSMEs in Denpasar City. *Journal of Business and Management Strategy Studies*, 7 (2).

Japa, MYS, Rokhman, MTN, & Harmadjji, DE (2023). The Influence of Financial Literacy and Financial Behavior on the Performance of Micro, Small, and Medium Enterprises (MSMEs) in Dinoyo. *Journal of Student Research & Scientific Studies (JPPIM)*, 4 (3), 54–64.

Kocmanová, A., Pavláková Dočekalová, M., Škapa, S., & Širáňová, L. (2016). Measuring corporate sustainability and environmental, social, and corporate governance value added. *Sustainability*, 8 (9), 945.

Kusuma, M., Narulitasari, D., & Nurohman, YA (2022). Financial Inclusion and Financial Literacy on the Performance and Sustainability of MSMEs in Solo Raya. *Among Makarti*, 14 (2).

Lubis, EF, & Nurhayati, N. (2024). The Influence of Financial Literacy and Financial Technology on the Financial Performance of MSMEs. *Journal of Business and Economics Research (JBE)*, 5 (2).

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly*, 293–334.

Nopiyani, PE, & Indiani, PR (2023). The influence of financial attitudes, financial behavior, and financial literacy on the financial performance of MSMEs in Ambengan Village Government. *Competitive Accounting Journal*, 6 (3), 411–418.

Nurjanah, R., Surhayani, S., & Asiah, N. (2022). Demographic Factors, Financial Literacy, Financial Attitudes Towards Financial Management Behavior in MSMEs in Bekasi Regency. *Pelita Bangsa Business Accounting Journal*, 7 (01), 1–16.

Panchasara, M., & Sharma, D. V. (2019). Exploring the role of behavioral theories in financial inclusion. *Available at SSRN 3634040*.

Rosati, F., & Faria, LGD (2019). Addressing the SDGs in sustainability reports: The relationship with institutional factors. *Journal of Cleaner Production*, 215, 1312–1326.

Rusnawati, R., & Saharuddin, S. (2022). The influence of financial literacy, financial behavior, and financial attitudes on the financial performance of micro, small, and medium enterprises in Makassar City. *SEIKO: Journal of Management & Business*, 5 (2), 253–261.

Safitri, LN, & Chamalinda, KNL (2024). The Influence of Financial Literacy, Financial Inclusion, Human Resources, and Government Support on the Performance of Micro, Small, and Medium Enterprises in Gresik Regency. *Equiliberium Discourse (Journal of Economic Research Thought)*, 12 (01), 1–18.

Sanistasya, PA, Raharjo, K., & Iqbal, M. (2019). The effect of financial literacy and financial inclusion on small enterprises performance in East Kalimantan. *Economia Journal*, 15 (1), 48–59.

Sari, BP, Rimbanu, D., Marselino, B., Sandy, CA, & Hairum, RR (2022). Determination of Financial Literacy and Financial Inclusion on the Performance and Sustainability of MSMEs. *Owner: Research and Accounting Journal*, 6 (3), 2840–2849.

Sari, PSP, & Pramuki, NMWA (2021). THE EFFECT OF INTELLECTUAL CAPITAL ON THE PERFORMANCE OF MICRO, SMALL, AND MEDIUM ENTERPRISES: (AN EMPIRICAL STUDY OF MSMES IN TAMPAKSIRING DISTRICT). *Hita Accounting and Finance*, 2 (4), 109–132.

Setiawan, A., & Faisal, F. (2024). The effect of financial literacy and social philanthropy functions on Islamic financial inclusion practices. *Corporate Governance and Organizational Behavior Review*, 8 (2), 257–264.

Spallini, S., Milone, V., Nisio, A., & Romanazzi, P. (2021). *The Dimension of Sustainability: A Comparative Analysis of Broadness of Information in Italian Companies*. *Sustainability 2021*, 13, 1457 . s Note: MDPI stays neutral with regard to jurisdictional claims in

Sudiro, KLK (2024). The threat of a global recession after the COVID-19 pandemic and its impact on consumer resilience in Indonesia: A synthetic analysis approach. *Journal of Economic Resilience and Sustainable*

Development , 1 (1), 32–46.

Sugiharti, H., & Maula, KA (2019). The influence of financial literacy on students' financial management behavior. *Accounthink: Journal of Accounting and Finance* , 4 (2).

Sugiyono, D. (2013). Quantitative research methods. *Qualitative, and Action* , 189–190.

Suhendar, A. (2021). The Influence of Perceptions of Changes in Organizational Structure on Employee Performance at the Directorate General of New and Renewable Energy, Ministry of Energy and Mineral Resources. *Journal of Education, Humanities and Social Sciences (JEHSS)* , 4 (1), 546–552. <https://doi.org/10.34007/jehss.v4i1.610>

Suyono, NA, & Zuhri, F. (2022). The Influence of Financial Inclusion, Financial Literacy, Managerial Ability, Accounting Knowledge, and Human Resource Competence on MSME Performance. *Jamasy: Journal of Accounting, Management, and Banking* .

Syuhada, A., & Auliy, ZF (2022). *The Influence of Financial Literacy on the Performance and Sustainability of MSMEs in Sukoharjo City* . FEBI/MBS.

Utami, AA, & Abdullah, A. (2024). The Influence of Financial Literacy, Financial Attitude, and Financial Behavior on the Performance of MSMEs in Bengkulu City. *Journal of Economic, Business, and Accounting (COSTING)* , 7 (3), 5365–5377.