

## The Effect of Audit, Financial Statement Quality, Financial Inclusion, Halal Certification on MSME Sustainability in the Food Sector in Medan Helvetia District

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### ABSTRACT

The focus of this study is to understand “the effect of audit, financial statement quality, financial inclusion, halal certification on the sustainability of MSMEs in the food sector in Medan Helvetia District” in 2019-2024. This study uses a quantitative approach using a questionnaire as a means to collect data. Data analysis was carried out using descriptive statistical tests, validity testing, reliability and classical assumption testing including residual normality, multicollinearity and heteroscedacity tests. The statistical testing process in this study includes multiple linear regression analysis which includes evaluating the coefficient of determination, testing the significance of the model as a whole (f test), and testing the effect of individual variables (t test). All stages of analysis were implemented through SPSS version 26.0 software. The sample of this study consisted of 97 MSME players. The study found that audit, financial statement quality and halal certification have a significant impact on the sustainability of Micro, Small and Medium Enterprises (MSMEs). In contrast, financial inclusion showed no significant impact. The research is expected to raise government awareness of the low knowledge of financial inclusion in Medan Helvetia Sub-district in order to improve access to financial products and services as well as consumer protection

## **INTRODUCTION**

Trade is one of the steps that a country must take to improve its economy, both micro and macro, especially in the current era of globalization, because economic growth directly affects the expansion of employment opportunities. Therefore, both large and small traders should contribute to economic growth (Wulandari, 2019). MSMEs (Micro, Small, and Medium Enterprises) are a fundamental element in Indonesia's economic system, which contributes to economic growth and there are around 66 million MSME players, which account for 61% of the economy (Wulandari, 2019).

MSME players, which contribute 61% to GDP, or around IDR 9,580 trillion. The MSME sector also absorbs 97% of the total workforce in Indonesia and gathers around 60.4% of all domestic investment (Yunus et al., 2022). MSMEs play a crucial role in the development of the Indonesian economy, including the economy in Medan City. Where the city of Medan is a fairly rapidly growing city, especially in Medan Helvetia District, which has 7 (seven) sub-districts, namely Helvetia, Cinta Damai, Dwi Kora, Sei Sikambang C II, East Helvetia, Central Helvetia, and Tanjung Gusta. Culinary, fashion, and service businesses (photocopying, salon, tailor, boarding house, etc.) are thriving. The area is ideal due to the availability of complete public facilities, including schools, colleges, medical facilities, shopping centers, and office buildings. Although MSMEs play a crucial role in economic growth, there are factors that jeopardize the sustainability of their businesses (Apriliyanto, 2023).

To survive and thrive in a competitive market, MSMEs need sustainability. In this case, audits are important to support the sustainability of MSMEs, especially in terms of financial and financial reports. As mentioned, there are many variables that can affect the sustainability of MSMEs, such as Audit, Financial Statement Quality, Financial Inclusion, and Halal Certification. Limited capital in increasing income and difficulty in obtaining bank loans are major problems often faced by MSMEs. This arises because the financial statements of MSMEs are not audited, so external parties cannot monitor their financial statements. With an audit, be it a financial audit or a management audit, external parties, such as financial institutions and investors, will have more confidence in the reports presented (Octavia et al., 2022).

Financial statements are also important for the sustainability of MSMEs as they provide decision-making financial information. One of the main problems faced by MSMEs is the lack of capital. However, many MSME players are still unable to access government capital policies because they often ignore the preparation of financial reports, even though this document is very important. The quality of financial statements, which is reflected in the accuracy of recording and bookkeeping, is a key indicator of business performance. In the industrial era 4.0, MSMEs are required to improve the quality of financial statements in order to access capital from financial institutions such as banks or non-banks (Mayasari, 2022).

Access to various types of financial resources, goods, and services that are relevant to meet the needs of society with the aim of improving welfare is referred to as financial inclusion (Permata Sari et al., 2022). The Center for Financial Inclusion defines financial inclusion as the right of access to various financial products such as financing options, savings services, insurance protection, and payment systems, which can help MSME actors obtain capital. Access to finance for the community is getting higher, as shown by the increase in financial inclusion from 76.19% in 2019. However, this still shows a gap, especially when compared to data from AFPI, which is taken from the official website of the Financial Services Authority (OJK), around 46.6 million or around 77.6% of MSME actors still experience problems accessing financing, both from the bank sector and alternative financial institutions (Pida & Imsar, 2022). This shows that although financial inclusion has increased, the benefits have not been felt equally by MSME actors.

In accordance with the provisions of Islamic law and MUI, halal certification is a form of legitimization of the halalness of a product issued by an institution that guarantees the halalness of the product. According to the Central Bureau of Statistics (Harbit, 2022), around 270.2 million people in Indonesia are Muslims, with around 1.6 million people living in Medan. It is very important for the Muslim lifestyle to prioritize the use of halal-certified products. However, many items that do not have halal certification are still sold in the community despite the increasing demand for halal goods. In addition, few products have halal certification, especially in Medan Helvetia, famous for the growth of MSMEs in the food industry.

This research develops the findings of (Wati & Pinaraswati, 2024) which highlight the importance of factors from a study entitled "The Effect of Financial Literacy, Financial Inclusion, and Access to Capital on the Sustainability of MSMEs in the Food Sector in Gresik Regency". The previous research suggested that financial literacy and outreach of financial services play a crucial role in supporting the sustainability of MSMEs. However, previous researchers also suggested that future research develop other variables that have the potential to have a significant influence on the sustainability of MSMEs, as well as expand the scope of locations that can enrich the research results. In response to the previous researcher's suggestion, this study adds several new variables that have not been widely explored before, such as the effect of audits, the quality of financial statements, and halal certification on the sustainability of MSMEs. This research examines how these factors play a role in supporting the sustainability of MSMEs, especially in the Medan Helvetia area. Referring to the context that has been described, the researcher intends to study with the title **"The Effect of Audit, Financial Statement Quality, Financial Inclusion, Halal Certification on MSME Sustainability in the Food Sector in Medan Helvetia District."**

## **LITERATURE REVIEW**

### **Audit Effect on MSME Sustainability**

In the context of Micro, Small and Medium Enterprises (MSMEs), audit quality has a crucial role in supporting business sustainability. As explained by Darmawan (2021), audit quality reflects the auditor's ability to obtain and evaluate reliable and quality financial information. This is important for MSMEs because many business actors in this sector do not have an organized accounting system, so they are prone to recording errors or discrepancies in the financial statements. A well-conducted audit not only aims to check the feasibility of financial statements, but also helps MSMEs identify weaknesses in the recording system and provide suggestions for improvement. That way, MSMEs can gradually improve their internal financial management.

According to Judianto (2024), quality audits also contribute to creating business transparency and accountability. For MSMEs, this is very important in building trust with external parties, such as investors, financial institutions, and the government. When MSME financial reports can be accounted for, the opportunity to gain access to funding and partnerships becomes more open. Overall, audits conducted independently and professionally can serve as a supervisory and mentoring tool for MSMEs to grow sustainably.

### **The Effect of Financial Statement Quality on MSME Sustainability**

According to (Amalia, 2023), financial reports are a form of accountability presented in the form of performance information for MSME actors that is useful for making informed business decisions, including obtaining bank loans and analyzing the dynamics of working capital, investment, revenue, costs, and net income through operational activities. In order to improve business efficiency, MSMEs need valid financial reports in order to access additional funding from financial institutions for business development.

Financial reports play an important role as an instrument for MSMEs in making decisions and ensuring information disclosure (Lubis & Lufriansyah, 2024). Financial reports are an important tool for MSMEs to account for business performance, support business decision-making, and obtain additional funding. Accurate reports can improve operational efficiency and ensure transparency in financial management for business expansion.

### **The Effect of Financial Inclusion on MSME Sustainability**

The concept of "Financial Inclusion" is in line with extensive research conducted to minimize some of the problems that prevent the general public from using the access provided by financial institutions (Mayasari, 2022). Financial inclusion is defined as a situation where everyone has the opportunity to access financial services and products that are relevant to their needs. Research shows that the expansion of financial inclusion contributes positively and significantly to the sustainability of MSMEs. In other words, the higher the level of financial inclusion of MSMEs, the better their performance (Rani & Desiyanti, 2024). Financial inclusion means that people have broad access to financial services as needed, which can remove barriers. Research shows that financial inclusion improves the sustainability of MSMEs, where the higher the level of financial inclusion, the better the performance of these MSMEs.

## **The Effect of Halal Certification on MSME Sustainability**

According to (Alfarizi, 2023), halal certification is a marketing strategy that attracts customers, both Muslim and non-Muslim. Halal certification increases the desire to repurchase products. To develop and advance their business, MSMEs must have halal certification because it can increase buyer interest, purchasing decisions, and sales. According to (Saputri & Astutik, 2024), halal certification is not only a burden for companies, but an opportunity for companies to expand their reach in domestic and international markets. Halal certification has a positive effect on buying interest and product sales both for customers. For MSMEs, halal certification is not only a necessity to increase customer confidence but also an opportunity to expand the market and improve product quality. With halal certification, manufacturers can meet safe production standards and maintain customer trust, which can drive business growth.

### **Research Hypothesis**

H<sub>1</sub>: The effect of Audit has a partial effect on the Sustainability of MSMEs

H<sub>2</sub>: Quality of Financial Statements has a partial effect on the Sustainability of MSMEs

H<sub>3</sub>: Financial Inclusion has a partial effect on the Sustainability of MSMEs

H<sub>4</sub>: Halal Certification has a partial effect on the Sustainability of MSMEs

H<sub>5</sub>: The effect of Audit, Quality of Financial Statements, Financial Inclusion, and Halal Certification simultaneously affects the Sustainability of MSMEs.

## **METHODOLOGY**

The research conducted by the author is a research using a quantitative approach, which examines phenomena in an orderly manner by collecting quantified data and analyzing it by involving mathematical, or computational statistical techniques. The Statistical Package for the Social Sciences (SPSS) version 26.0 application was used for data processing in the following study (Saputra, 2022).

In the data processing process that has been carried out using the SPSS version 26.0 application, the study applies data analysis through regression, validity and reliability testing, classical assumption checking, and hypothesis testing. The use of these various tests is intended to ensure that the instruments used in this study are truly reliable and produce accurate data.

### **Types and Sources of Data**

This research relies on Primary data, using a questionnaire instrument distributed via Google Form. Data is collected through a questionnaire, which consists of a collection of written statements or questions to be submitted to respondents.

This technique is considered practical if the researcher already understands the indicators to be quantified and the desired target year of the respondent (Agustian, 2019). The answers to the questionnaire are displayed on a Likert scale with the aim of knowing the responses and views of an individual or group on social issues.

## Population and Sample

### Population

According to (Susanto et al., 2024) states that the research population consists of a collection of units of analysis that have similar or related characteristics to the focus of the study. The purpose of identifying the level and characteristics of the population is to ensure that the research gets an accurate picture. The overall research subject consisting of individuals, objects, or events is referred to as the research population. In 2023, the research population includes 254 MSMEs in Medan Helvetia sub-district.

Table 1. Source Population

No	Kecamatan	Jumlah
1.	Medan Tuntungan	74
2.	Medan Johor	132
3.	Medan Amplas	107
4.	Medan Denai	116
5.	Medan Area	80
6.	Medan Kota	96
7.	Medan Maimun	36
8.	Medan Polonia	44
9.	Medan Baru	60
10.	Medan Selayang	118
11.	Medan Sunggal	172
12.	<b>Medan Helvetia</b>	<b>254</b>
13.	Medan Petisah	77
14.	Medan Barat	95
15.	Medan Timur	67
16.	Medan Perjuangan	48
17.	Medan Tembung	70
18.	Medan Deli	80
19.	Medan Labuhan	59
20.	Medan Marelan	118
21.	Medan Belawan	34

*as Koperasi Dan UMKM Kota Medan 2023*

### Sample

Factors of limited cost, time, and energy, as well as population homogeneity and significant population size, sampling is needed to describe the population efficiently (Subhaktiyasa, 2024). The sample selection was obtained from purposive sampling, namely by determining the subjects selected randomly based on certain criteria deemed relevant by the researcher.

The criteria for respondents selected by the researcher are:

1. The sample is an MSME actor who lives in the Medan Helvetia sub-district.
2. Samples are MSMEs that have been operating for at least 5 years.
3. Sample is an MSME that is still actively carrying out business activities.

The author uses the Slovin formula to determine the number of research samples:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{254}{1 + (254)(0,1)^2}$$

$$n = \frac{254}{1 + 2,54}$$

$$n = \frac{254}{3,54}$$

$$n = 72$$

72 samples were determined in this study.

## Variable Operational Definition

Table 2. Variables Studied

Variable	Definition	Indicator	Scale
Audit ( $X_1$ )	Audit quality is crucial in the field of auditing. Internal auditors are required to carry out audits carefully in order to produce quality audit reports, so as to provide confidence in the reputation of their business.	<ol style="list-style-type: none"> <li>1. Improving Financial Management.</li> <li>2. Operational Efficiency.</li> <li>3. Increase Business Trust and Reputation.</li> </ol>	Likert Scale
Quality of Financial Statements ( $X_2$ )	Quality financial statements are determined by the completeness, clarity, and honesty of the information presented. High quality financial statements reflect the alignment of the information presented with applicable accounting standards, which helps business decision-making, attract investors, and make it easier to apply for debt.	<ol style="list-style-type: none"> <li>1. Preparation of Financial Statements.</li> <li>2. Clarity of Financial Statements.</li> <li>3. Decision Making.</li> </ol>	Likert Scale
Financial Inclusion ( $X_3$ )	Financial inclusion refers to the state where people have access to a variety of financial products, services and financial institutions.	<ol style="list-style-type: none"> <li>1. Access to Financial Services.</li> <li>2. Financial Education.</li> <li>3. Digital Financial Services.</li> </ol>	Likert Scale
Halal Certification ( $X_4$ )	Halal certification of a product not only guarantees its halalness, but also reflects standards of cleanliness, quality and hygiene. This has a positive impact in the form of increased consumer confidence in the product.	<ol style="list-style-type: none"> <li>1. Consumer Trust Level.</li> <li>2. Industry Standard Level.</li> <li>3. Competitiveness Level.</li> </ol>	Likert Scale
MSME Sustainability ( $Y$ )	The concept of sustainability in business refers to a company's capacity to maintain operational continuity and fulfill its financial commitments over a long period of time. For MSMEs, this aspect is essential to spur economic growth.	<ol style="list-style-type: none"> <li>1. Financial Management.</li> <li>2. Financing Management.</li> <li>3. Management of Compliance with Standards.</li> </ol>	Likert Scale

## Data Analysis Technique

In the data processing process, the SPSS version 26.0 application is used by applying data analysis through regression, validity and reliability testing, classical assumption checking, and hypothesis testing.

## **Regression Analysis**

### **Multiple Linear Regression**

According to (Triyanto et al., 2019), to understand the impact of cost, brand reputation, and service quality on customer satisfaction levels, regression analysis is used. Regression analysis called multiple linear regression identifies the correlation between the dependent variable and a number of independent variables. Where linear regression is the appropriate method to use when a class, outcome, or output is numeric and all its attributes are numeric.

The following equation shows the multiple linear regression analysis formula applied in this research:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Information:

Y = MSME Sustainability

A = Constant

X<sub>1</sub> = Audit

X<sub>2</sub> = Quality of Financial Statements

X<sub>3</sub> = Financial Inclusion

X<sub>4</sub> = Halal Certification

e = Error level

### **Test Coefficient of Determination (R<sup>2</sup>)**

According to (Amelia et al., 2021), the R-squared value (R<sup>2</sup>) is applied to calculate how much the proportion of the dependent variable (Y) due to the influence of the independent variable (X). If R<sup>2</sup> is greater, the proportion of changes in the dependent variable (Y) due to the influence of the independent variable (X) will be greater, and if R is lower, the proportion of changes in the dependent variable (Y) due to the influence of the independent variable (X) will be lower.

### **Validity Test & Reliability Test**

According to (Janna, 2021), the validity test is used to ensure the validity of the questionnaire. Comparison between the calculated t value and r table is carried out to determine significance. Based on Ghozali (2001) in Sujarweni (2019), only valid question items are tested for reliability. This test measures the consistency of the questionnaire as an indicator of a variable or construct. The questionnaire is considered reliable if the Cronbach Alpha value > 0,600.

### **Classical Assumption Test**

#### **Residual Normality Test**

According to (Mardiatmoko, 2020), there are three methods for testing normality, namely by applying the Kolmogorov-Smirnov test, and reviewing the histogram graph and normal probability plot. The purpose of the test is to ensure that the residuals are normally distributed, which is a characteristic of a good regression model. The Normal P-P Plot graph of the standardized regression is used to assess the normality of the data. The model is considered normal and fit for prediction if the data follows the diagonal line.

The test criterion applied is:

- If the significance value ( $\text{sig}$ )  $> 0.05$ , then the data is normally distributed.
- If the significance value ( $\text{sig}$ )  $< 0.05$ , then the data is not normally distributed.

### **Multicollinearity Test**

According to (Mardiatmoko, 2020), the multicollinearity test is intended to identify the presence of a linear relationship in several independent variables being analyzed. Multicollinearity occurs when there is a very close or close linear relationship between the independent variables in the regression model, VIF and tolerance values are used. Multicollinearity arises when there is a perfect linear relationship in some or all of the independent variables. The regression model is considered to have no multicollinearity if the VIF value is  $< 10$  and the tolerance value is  $> 0.1$ .

### **Heteroscedasticity Test**

According to (Mardiatmoko, 2020), heteroscedasticity testing aims to analyze the error variance varies between variables. Graphs can be used to detect it. Heteroscedasticity occurs when the residual variance in the regression model is not the same for each observation. To detect heteroscedasticity, the observed Y value and predicted Y value are compared with the absolute residual value (absolute value). The regression model is considered free from heteroscedasticity if the significance value obtained from the relationship between the independent variables and the absolute value of the residuals  $> 0.05$ .

### **Hypothesis Testing**

The statistical procedure that aims to evaluate sample data in order to provide adequate support to support or reject a statement about the population is called hypothesis testing. The purpose of hypothesis testing is to make inferences about the population based on sample data.

### **F Test (Simultaneous)**

According to (Amelia et al., 2021), to test the significance of the regression equation and determine the magnitude of the influence of the independent variables (X1, X2, X3, and X4) on the dependent variable (Y) which is the sustainability of MSMEs, an F test is required. According to the decision criteria, if  $\text{sig} > 0.05$  then  $H_0$  is accepted and if  $\text{sig} < 0.05$  then  $H_0$  is rejected.

### **T (Partial) Test**

According to (Amelia et al., 2021), testing the partial regression coefficient separately is used to determine whether the dependent variable (X1, X2, X3, and X4) separately affects the independent variable (Y) which is called the T test. According to the decision criteria, if  $\text{sig}$  is greater  $> 0.05$  then  $H_0$  is accepted, and if  $\text{sig}$  is smaller  $< 0.05$  then  $H_0$  is rejected.

## RESULTS

### Descriptive Statistics

Table 3. Descriptive Statistical Analysis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
AUDIT	97	10	30	21.99	5.696
KUALITAS LAPORAN KEUANGAN	97	9	30	21.70	5.364
INKLUSI KEUANGAN	97	11	30	22.24	4.743
SERTIFIKASI HALAL	97	12	30	21.22	5.481
KEBERLANJUTAN UMKM	97	10	30	22.62	5.169
Valid N (listwise)	97				

1. The audit variable has 97 data points that range between 10 and 30, and has a median value of 21.99, which is slightly higher than the other variables. The standard deviation of 5.696 shows considerable variation in the data.
2. The financial report quality variable consists of 97 data, with the lowest number 9, the highest number 30, and a mean of 21.70. The standard deviation of 5.364 shows considerable variation between respondents in terms of the quality of financial statements.
3. The financial inclusion variable consists of 97 data, with a value range of 11 to 30 with a mean of 22.24. The standard deviation of 4.743 indicates the majority of entities achieve a good level of financial inclusion with less variation than other variables.
4. The halal certification variable consists of 97 data, with the lowest value of 12 and the highest of 30 and an average of 21.22. The standard deviation of 5.481 shows the imbalance of halal certification ownership between the entities studied.
5. MSME sustainability consists of 97 data, with the smallest score of 10 and the largest score of 30 and the highest average figure of 22.62. The standard deviation of 5.169 indicates that respondents generally feel the sustainability of their MSMEs is good, although there are variations.

### Validity Test

The questionnaire is considered valid if  $r_{\text{count}} > r_{\text{table}}$  and significance value  $< 0.05$ . The test criteria are:

1.  $r_{\text{count}} > r_{\text{table}} = \text{valid}$
2.  $r_{\text{count}} < r_{\text{table}} = \text{invalid}$

With  $N = 97$  the value of  $r_{\text{table}}$  becomes  $df = 95$  at 5% significance,  $r_{\text{table}}$  is 0.1996.

Table 4. Validity Test Results

Variable	Question	Validity Score
Audit (X1)	X1.1	0.485
	X1.2	0.786
	X1.3	0.830
	X1.4	0.753
	X1.5	0.765
	X1.6	0.725
Quality of Financial Statements (X2)	X2.1	0.560
	X2.2	0.715
	X2.3	0.682
	X2.4	0.726
	X2.5	0.739
	X2.6	0.644
Financial Inclusion (X3)	X3.1	0.390
	X3.2	0.622
	X3.3	0.737
	X3.4	0.739
	X3.5	0.701
	X3.6	0.674
Halal Certification (X4)	X4.1	0.450
	X4.2	0.609
	X4.3	0.746
	X4.4	0.812
	X4.5	0.750
	X4.6	0.701
MSME Sustainability (Y)	Y1.1	0.444
	Y1.2	0.742
	Y1.3	0.756
	Y1.4	0.781
	Y1.5	0.766
	Y1.6	0.657

In this study, the analysis of the various variables studied such as Audit, Financial Statement Quality, Financial Inclusion, Halal Certification and MSME Sustainability has a significance level  $<0.05$  and an estimated  $r$  value of 0.1996. Thus, each question in the variable can be used as a valid measurement instrument because  $r_{hitung} > r_{tabel}$ .

#### Reliability Test

Cronbach Alpha was used to evaluate the reliability of this research questionnaire. According to Zamzam & Marnisah (2021), an item or questionnaire must be reliable or feasible to use as a research tool if the Cronbach alpha value is  $> 0.70$ .

Table 5. Reliability Test Results

Variable	Cronbach's Alpha
Audit (X1)	0.823
Quality of Financial Statements (X2)	0.768
Financial Inclusion (X3)	0.727
Halal Certification (X4)	0.772
MSME Sustainability (Y)	0.788

In accordance with the results of the data evaluation that has been carried out, it is proven to have good reliability and is suitable for further evaluation because each statement of the Audit variable (X1), Financial Statement Quality (X2), Financial Inclusion (X3), Halal Certification (X4), and MSME Sustainability (Y) obtained Cronbach's Alpha > 0.7.

**Classical Assumptions**

**Residual Normality Test**

The image data distribution pattern shows that the data points are scattered around the line and follow the diagonal direction, as shown by the standard normal P-P regression plot, that the regression model functions properly and is feasible to predict the independent variables.

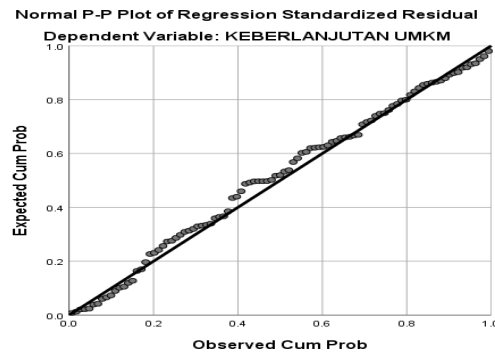


Figure 1. Probability Plot Normality Graph

The normality test results on the Normal P-P Plot Chart display data points that lie on the diagonal line, indicating a proportional regression model. Additional validation was carried out using the One Sample Kolmogorov Smirnov test, with the results presented in the following table:

Table 6. Kolmogorov-Smirnov Test

**One-Sample Kolmogorov-Smirnov Test**

		Unstandardized Residual
N		97
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	3.88299479
Most Extreme Differences	Absolute	.075
	Positive	.034
	Negative	-.075
Test Statistic		.075
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

- a. Test distribution is Normal.
- b. Calculated from data.
- c. Lilliefors Significance Correction.
- d. This is a lower bound of the true significance.

From the table above, it can be seen that the significance value (Asymp. Sig.2-tailed) of the residual data is  $0.200 > 0.05$  as shown in the table above. Therefore, the data is interpreted as normally distributed. Then the results of the normality test can be seen from the histogram which is shaped like a bell in the picture below:

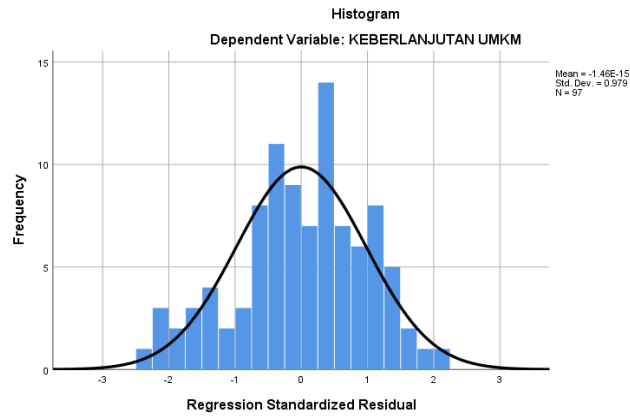


Figure 2. Histogram Graph Analysis

According to the results of the figure above, the regression coefficient fulfills the assumption of normality, it can be seen that the histogram curve is in the form of a bell curve.

**Multicollinearity Test**

The multicollinearity test results in the table above show that there is no indication of multicollinearity. This can be seen from the VIF values on the four independent variables  $< 10$  and Tolerance values  $> 0.100$ .

Table 7. Multicollinearity Testing

**Coefficients<sup>a</sup>**

Model		Collinearity Statistics	
		Tolerance	VIF
1	AUDIT	.948	1.055
	KUALITAS LAPORAN KEUANGAN	.803	1.246
	INKLUSI KEUANGAN	.744	1.345
	SERTIFIKASI HALAL	.895	1.117

a. Dependent Variable: KEBERLANJUTAN UMKM

Based on the table above, it is known that:

1. Audit VIF Value (X1) =  $1.055 < 10$  and Audit Tolerance Value (X1) =  $0.948 > 0.100$ , so there is no multicollinearity.
2. VIF Value of Financial Statement Quality (X2) =  $1.246 < 10$  and Tolerance Value of Audit (X1) =  $0.803 > 0.100$ , so there is no multicollinearity.
3. The VIF value of Financial Inclusion (X3) =  $1.345 < 10$  and the Audit Tolerance Value (X1) =  $0.744 > 0.100$ , so there is no multicollinearity.

- The VIF value of Halal Certification (X4) = 1.117 < 10 and the Tolerance Value of Audit (X1) = 0.895 > 0.100, so there is no multicollinearity.

**Heteroscedasticity Test**

The figure below shows the heteroscedasticity test graph, which looks like this:

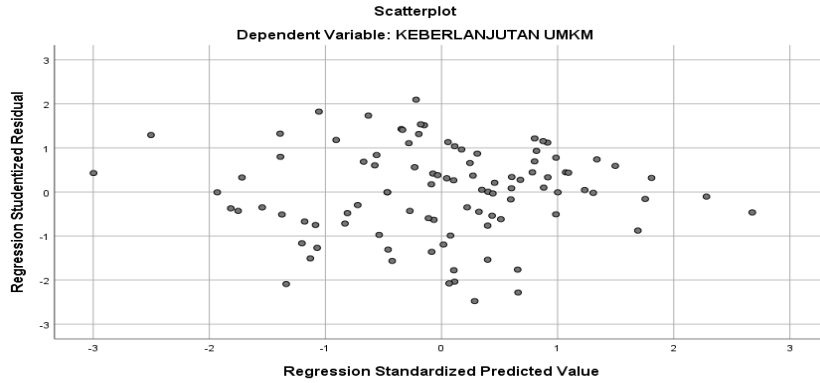


Figure 3. Scaterplot Test

The scatterplot line shown shows the data points are scattered randomly, without a clear pattern, and are located on both sides of the Y-axis, both above and below zero. This indicates that the regression model does not suffer from heteroscedasticity, so its performance can be predicted using the independent variables as input.

**Regression Analysis**

**Multiple Linear Regression**

The results obtained after data processing using spss version 26.0 are presented in the following table:

Table 8. Multiple Liner Regression

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	28.702	2.410		11.908	.000
	AUDIT	.417	.073	.460	5.718	.000
	KUALITAS LAPORAN KEUANGAN	-.291	.077	-.331	-3.785	.000
	INKLUSI KEUANGAN	-.154	.088	-.159	-1.750	.083
	SERTIFIKASI HALAL	-.260	.071	-.302	-3.647	.000

a. Dependent Variable: KEBERLANJUTAN UMKM

Based on the table above, the regression equation is obtained, namely :

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

$$Y = 28.702 + 0,417X_1 - 0,291X_2 - 0,154X_3 - 0,260X_4$$

Which means :

1. The constant value of 28,702 means that if the Audit Effect (X1), Financial Statement Quality (X2), Financial Inclusion (X3) and Halal Certification (X4) are considered constant, the sustainability of MSMEs has a value of 28,702.
2. The Audit variable (X1) has a multiple regression coefficient of 0.417 which shows a positive influence. This means that the MSME Sustainability variable will increase by 0.417 for each one unit increase in the Audit variable, assuming the value of the other independent variables remains constant.
3. The Financial Statement Quality variable (X2), has a multiple regression coefficient of -0.291, which has a negative effect. This reveals that the MSME Sustainability variable will decrease by -0.291 for every one unit decrease in the Financial Statement Quality variable, assuming that the other independent variables do not change.
4. The Financial Inclusion variable (X3), has a multiple regression coefficient of -0.154, which has a negative effect. In other words, a one-unit increase in the Financial Inclusion variable will reduce MSME Sustainability by -0.154, assuming that the other independent variables do not change.
5. Halal Certification variable (X4), the multiple regression coefficient value is -0.260, which has a negative effect. In other words, each one unit increase in the Halal Certification variable will cause a change in the MSME Sustainability variable of -0.260, assuming that the other independent variables remain.

#### Determination Coefficient Test (R<sup>2</sup>)

Table 9. Model Summary

<b>Model Summary<sup>b</sup></b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.660 <sup>a</sup>	.436	.411	3.96651

a. Predictors: (Constant), SERTIFIKASI HALAL, AUDIT, KUALITAS LAPORAN KEUANGAN, INKLUSI KEUANGAN

b. Dependent Variable: KEBERLANJUTAN UMKM

The Adjusted R Square result of 0.411 indicates that the Audit, Financial Statement Quality, Financial Inclusion, and Halal Certification variables contribute 41.1% to the dependent variable, as shown in the findings above.

#### F Test

The F (Simultaneous) test was conducted to analyze the effect of the independent variables as a whole on the dependent variable. The results of the f test calculation obtained using the SPSS (Statistical Programs For The Social Sciences) version 26.0 program as contained in the table below.

Based on the Significance value (Sig.) of the Output and Anova

1. If the Sig value.  $< 0.05$ , then the hypothesis is accepted. This means that Audit (X1), Financial Statement Quality (X2), Financial Inclusion (X3), and Halal Certification (X4) simultaneously affect MSME Sustainability (Y).
2. If the Sig value.  $> 0.05$ , then the hypothesis is rejected. This shows that Audit (X1), Financial Statement Quality (X2), Financial Inclusion (X3), and Halal Certification (X4) simultaneously have no effect on MSME Sustainability (Y).

Table 10. F Test Results

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1117.432	4	279.358	17.756	.000 <sup>b</sup>
	Residual	1447.454	92	15.733		
	Total	2564.887	96			

a. Dependent Variable: KEBERLANJUTAN UMKM

b. Predictors: (Constant), SERTIFIKASI HALAL, AUDIT, KUALITAS LAPORAN KEUANGAN, INKLUSI KEUANGAN

The table is the result of the f test, where the Audit variable (X1), Financial Statement Quality (X2), Financial Inclusion (X3), Halal Certification (X4) simultaneously has an influence on Y, because the significance value is less than 0.05 ( $0.00 < 0.05$ ).

**T Test**

Based on calculations carried out using the SPSS (Statistical Progame For The Social Sciences) version 20.0 program. The results of the t test in this study are shown in the following table :

Table 11. T-Test Results

Variable	t-calculated	t-table	Sig value
Audit (X1)	5.718	1.98580	0.000
Quality of Financial Statements (X2)	-3.785	1.98580	0.000
Financial Inclusion (X3)	-1.750	1.98580	0.083
Halal Certification (X4)	-3.647	1.98580	0.000

Based on the T test results in the table, the following results are obtained:

1. Audit variable (X1) has a partial influence on Y, because the t-count value exceeds the t-table is  $5.718 > 1.98580$  and the significance value is  $0.00 < 0.05$ . The effect is positive, which means that an increase in X1 will be followed by an increase in Y.
2. The Financial Statement Quality Variable (X2) partially affects Y, as seen from the significance value of 0.00 which is below the critical limit of 0.05.
3. The Financial Inclusion variable (X3) has no partial effect on Y, because the significance value is 0.83 which exceeds 0.05).
4. The Halal Certification variable (X4) has a partial influence on Y as seen from the significance value of  $0.00 < 0.05$ ).

## DISCUSSION

### **H1: The Effect of Audit (X1) on MSME Sustainability**

The results of the partial hypothesis test show that the t-count exceeds the t-table ( $5.718 > 1.98580$ ) and the significance of 0.000 is smaller than 0.05, which proves that auditing has an effect on the sustainability of MSMEs. Quality audits have a positive impact on business sustainability. This finding is in line with research (Hendi & Desiana, 2019) and (Huda & Zulfiqar, 2023) which state that audits help MSMEs detect errors, prevent fraud and improve accounting systems. Audited financial statements increase credibility and facilitate access to funding and resources. Audits also support regulatory compliance and are a strategic investment for MSMEs to improve performance, reduce risk, and build reputation. These findings emphasize the importance of MSMEs' awareness of the benefits of audits and encourage them to engage independent auditors.

### **H2: The Effect of Financial Report Quality (X2) on MSME Sustainability**

The results of hypothesis testing show that the quality of financial statements has an influence on the sustainability of MSMEs, with the t-count reaching  $-3.785, > t$ -table value  $1.98580$ , significance  $0.000 < 0.05$ ). This finding is in line with research conducted by (Hermawan, 2022), and (Fachruzzaman et al., 2021) which confirms that the quality of accurate and relevant financial reports is important for strategic decisions and sustainability of MSMEs. quality financial reports increase the trust of financial institutions, investors, and suppliers, and help MSMEs improve efficiency and performance. MSMEs that invest in good financial reports tend to have better performance and bright long-term prospects.

### **H3: The Effect of Financial Inclusion (X3) on MSME Sustainability**

The results of hypothesis testing show that the t-count  $-1.750 < t$ -table  $1.98580$ , and the significance of  $0.083 >$  from 0.05, so that financial inclusion has no effect on the sustainability of MSMEs. Although previous studies (Fadilah et al., 2022; Novita et al., 2023) suggest financial inclusion has a positive impact, these results could be due to differences in MSME characteristics, the indicators used or other factors such as management quality and market conditions. Nonetheless, financial inclusion remains important to improve MSMEs' access

to financial resources. Further research is needed to identify factors that moderate this relationship. In addition, the normality test using Kolmogorov-Smirnov shows a significance value of 0.200 which is  $> 0.05$ , meaning the residual data is normally distributed and the assumption of normality has been met.

#### **H4: The Effect of Halal Certification (X4) on MSME Sustainability**

The results of hypothesis testing show a t-count of  $-3.647 > t\text{-table } 1.98580$  significance  $0.000 < 0.05$  which indicates that halal certification has a negative effect on the sustainability of MSMEs. The alternative hypothesis ( $H_a$ ) is accepted, while the null hypothesis ( $H_0$ ) is rejected. Although the effect is negative, this result confirms the real impact of halal certification. Previous research by Desmayonda & Trenggana (2019) showed that halal certification increases buying interest and market reach. However, the difference in these results is due to the perception of costs and benefits, with MSMEs the cost of halal certification. These findings indicate the importance of additional research understanding the factors that moderate between halal certification and MSME performance.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

There are ideas that can be made by analyzing the research findings on the Effect of Audit, Quality of Financial Statements, Financial Inclusion, and Halal Certification on the Sustainability of MSMEs in the food sector in Medan Helvetia District:

1. The Audit variable (X1) has a significant effect on the sustainability of umkm (Y) according to the analysis of the research results.
2. The variable Quality of Financial Statements (X2) shows a significant influence on the sustainability of umkm (Y) according to the analysis of the research results.
3. The Financial Inclusion variable (X3) does not have a significant effect on the sustainability of umkm (Y) according to the analysis of the research results.
4. The Halal Certification variable (X4) has a significant effect on the sustainability of umkm (Y) according to the analysis of the research results.
5. Audit Variables (X1), Financial Statement Quality Variables (X2), Financial Inclusion Variables (X3), and Halal Certification Variables (X4) on the sustainability of umkm (Y) in the food sector in Medan Helvetia District, it can be concluded simultaneously that Audit variables, Financial Statement Quality, and Halal Certification collectively have a significant influence on the sustainability of MSMEs according to the analysis of research results. Meanwhile, the Financial Inclusion variable did not show a significant influence on the sustainability of MSMEs in this study. Thus, efforts to improve the sustainability of food MSMEs in Medan Helvetia District can be focused on improving audits, the quality of financial reports, and obtaining halal certification.

## Recommendations

1. Future researchers are expected to add research variables, enlarge the sample, increase the number of indicators, conduct research in other cities with more samples, and MSME players in Medan Helvetia District are expected to maintain and improve financial inclusion knowledge to support business sustainability. Halal certification also needs to be considered as a strategy to improve competitiveness.
2. The government is expected to pay more attention to the low level of financial inclusion knowledge in Medan Helvetia Sub-district, including financial products and services, accessibility, and consumer protection, in order to support the improvement of MSME financing and income.

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