



Analysis of The Influence of Financial Literacy, Investment Motivation, and Religiosity on Investment Interest in Sharia Shares

Agung Hidayat

E-Samsat and Motor Vehicle Taxpayer Compliance in The Perspective of Systematic Literature Review

Aloysia Heny Enggaryanti

Analysis of Payroll Accounting Information Systems at The Ministry of Religious Affairs Office in Surabaya City

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Preface

Praise be to the presence of Tuhan Yang Maha Esa, because of His grace and grace, the Journal of Applied Management and Business (JAMB) can be published according to what was planned.

Journal of Applied Management and Business (JAMB) is a peer review journal published by Universitas Dinamika. This journal is published in July and December. Journal of Applied Management and Business (JAMB) is a learned journal in the management and marketing for a knowledge society, international and interdisciplinary in scope, JAMB keeps its readership well informed on all key aspects of business development, being an essential resource for policy makers and strategists across countries. Journal of Applied Management and Business (**JAMB**) is published in twice (Juli dan Desember) a year.

We would like to thank Dinamika University for its full support for the publication of the Journal of Applied Management and Business (**JAMB**). To the implementers of the community service program who have sent the results of community service and empowerment activities to the **JAMB** editor, and we would like to thank all parties, whether directly or indirectly involved.

Editor in Chief



Martinus Sony Erstiawan, S.E., MSA

Analysis of The Influence of Financial Literacy, Investment Motivation, and Religiosity on Investment Interest in Sharia Shares

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ABSTRACT

This research aims to analyze and find evidence empirical research regarding the influence of financial literacy, investment motivation, and religiosity on investment interest in sharia shares. This research is quantitative research with data collection techniques using questionnaires. The sample was 110 respondents who were students majoring in accounting at the Semarang State Polytechnic. The sampling technique used was simple random sampling by distributing questionnaires (randomly) to students majoring in accounting at the Semarang State Polytechnic. Primary data processing uses instrumental test analysis methods, classical assumptions, multiple linear regression, and hypothesis testing. The results of this study indicate that financial literacy does not have a significant positive effect on interest in investing in sharia shares, investment motivation has a positive and significant effect on interest in investing in sharia shares, and religiosity has a positive and significant effect on interest in investing in sharia shares.

Introduction

Capital markets have an important role in economic activities in many countries, especially in countries that adhere to a market economic system. Because the capital market can be an alternative source of funds for companies. The capital market in Indonesia, which had initially faded, was reactivated in 1977 and is handled by the Bapepam agency. However, in recent years the mechanisms of the conventional capital market system which contain usury, maysir and gharar have raised doubts among Muslims. Therefore, the sharia capital market was developed in Indonesia with the issuance of Sharia Mutual Funds by PT. Danareksa Investment Management on July 3 1997 in order to accommodate the needs of Muslims in Indonesia who wish to invest in the capital market according to sharia principles [1].

The Islamic capital market is the same as the conventional capital market which is an important component in an overall financial system, however there are differences in practical activities. Where sharia capital market industry activities refer to Islamic sharia principles with the aim of equal distribution and increasing prosperity [2].

Sharia shares have different elements from conventional shares, but on the Indonesian Stock Exchange they are traded within one capital market institution. These two types of shares are calculated by the Composite Stock Price Index (IHSG), then sharia shares are calculated separately by the Jakarta Islamic Index (IJJ) and develop into the Indonesian Sharia Stock Index (ISSI). However, currently there are no international sharia standards for the sharia stock screening process.

There is debate about whether Islamic shares have the same or different profit potential than conventional shares. Analysis of the performance of sharia and conventional shares can help investors understand the potential profits and risks of these two types of shares. Apart from the financial aspects, many investors are also interested in the ethical dimension of investing. Islamic shares offer an opportunity for investors who want to incorporate ethical values in their portfolio.

Sharia shares are a sharia capital market instrument whose performance is superior to conventional shares. This is proven by looking at statistical data on its development from 2017 to 2023, which continues to increase. And data in 2017 for the first period of the Sharia Securities List was 351 and for the second period it increased to 375. Meanwhile in 2023 for the first period it was recorded at 574 and the second period reached 637. The following is statistical data on the development of sharia shares:

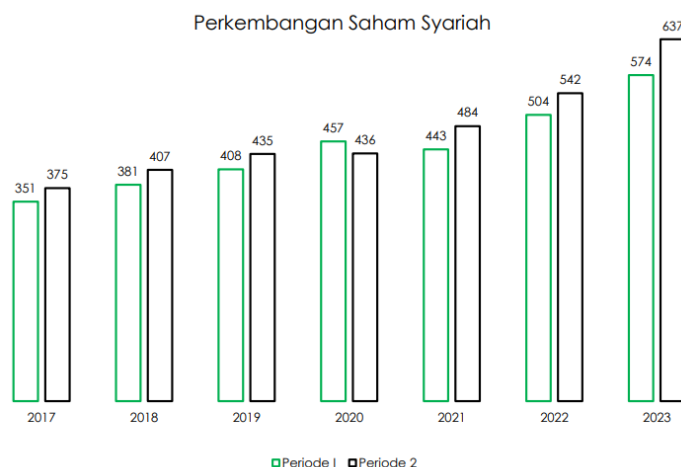


Figure 1. Development of Sharia Shares 2017 - 2023
(Source: Financial Services Authority, 2024)

The first factor that influences interest in investing in sharia shares is Financial Literacy. Referring to several studies regarding the influence of sharia financial literacy on investment interest, results tend to vary. As in research [3], which shows that there is a positive influence between financial literacy and investment interest. Meanwhile, research [4] found that there was no influence between financial literacy and investment interest. Financing literacy is a basic guideline in making investment decisions.

The second factor that can increase a person's investment decision in sharia shares is motivation. According to [5] in his research entitled Analysis of Factors that Influence People's Interest in Investing in the Sharia Capital Market through the UII Investment Gallery Exchange. The results of this research show that the factors that influence investors' interest in investing in the Islamic capital market are motivation

factors. According to [6] that motivation and interest in investing in the capital market among FE students at Yogyakarta State University is influential and significant. Investment motivation is very important for an investor, this is because it is to fulfill the goals that have been set before investing.

The third factor that influences interest in investing in sharia shares is religiosity. Research conducted by [7] in the Beginner Stock Investor Community stated that the results of religiosity partially have a significant effect on interest in investing in the Sharia Capital Market. These results provide an understanding that the better the religiosity, the better the interest in investing. Apart from that, research from [8] which was aimed at students at the Faculty of Economics, Semarang State University stated that the higher the level of student religiosity, the more it will influence their actions in carrying out daily activities, including religious activities, someone who has high religiosity will be more obedient. regarding the teachings and laws that have been obtained. This is in line with interest theory according to [9] where a person's interest will be influenced by attitudes towards a person's behavior. So, if a student's religiosity is high, he or she will understand more about Sharia laws regarding Sharia shares, that is, he will avoid usury, gharar (obscurity), speculation, and in carrying out transactions according to Sharia contracts contained in the Al-Qur'an and Hadith so that he can avoid from sin and bring salvation in this world and the hereafter. so that a person's level of religiosity can influence interest in investing in the Sharia Capital Market.

Based on the explanation of the phenomenon and research gap described, research related to sharia investment interest using variables in this research is still very rare. This research was conducted by focusing the study on the influence of financial literacy, motivation and religiosity on investment interest in sharia shares. What differentiates this research from several previous studies is that there is the use of sharia aspects such as the use of variables. For this reason, researchers conducted this research with the title "Analysis of the Influence of Financial Literacy, Investment Motivation and Religiosity on Interest in Sharia Stock Investment".

Based on this background, this research has a problem formulation, namely (1) Do financial literacy, investment motivation, and religiosity simultaneously have a significant effect on interest in investing in sharia shares? (2) Does financial literacy partially have a significant effect on interest in investing in sharia shares? (3) Does investment motivation partially have a significant effect on interest in investing in sharia shares? (4) Does financial literacy partially have a significant effect on interest in investing in sharia shares?

Research Methods

The type of research used is quantitative research with associative research methods. According to [10] quantitative research is a research method that is based on the philosophy of positivism, this research is used to examine a certain population or sample, by collecting data using research instruments, there is quantitative or statistical data analysis, which aims to test a hypothesis. which has been determined [10].

The philosophy of positivism views reality or symptoms or phenomena that can be classified, relatively fixed, concrete, observable, measurable and the relationship between symptoms is causal [10]. Meanwhile, associative research methods are research

that aims to determine any influence or relationship between two or more variables. In this study, researchers will analyze the influence of financial literacy, investment motivation, and religiosity on interest in investing in sharia shares.

The data source in this research is primary data which is a source of research data obtained directly from original sources (not through intermediaries) [11]. Primary data is specifically collected by researchers to answer research questions/statements. Primary data in this research was obtained directly from the research object, namely Semarang State Polytechnic students, obtained through questionnaire data. This research uses cross section data where data is the result of filling out a questionnaire regarding interest in investing in sharia shares by a group of respondents at a certain time.

Population according to [10] is a generalized area consisting of objects or subjects that have certain qualities or characteristics determined by researchers to be studied and conclusions drawn. Based on the explanation of this definition, it can be concluded that the population is a research object that has the right characteristics according to the research target. The population in this study were all active students of the Semarang State Polytechnic Accounting Department.

According to [10] the sample is part of the number and characteristics of the population. So a sample is a small portion of the total number of research objects taken and used to represent the entire population. The sample selection in this research used the Simple Random Sampling method. Simple Random Sampling is taking sample members from a population randomly without showing the strata that exist in that population [10]. In determining the sample size in research, researchers use a level of error of 10%, because the population is quite large [10]. The formula used by researchers to determine the sample size uses the Slovin formula, namely:

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

Formula 1. Slovin's formula

Description

n = Sample size

N = Population Size

e = Percentage of allowance for inaccurate sampling errors that can still be tolerated or desired, e = 10%.

In this research, the population taken from the number of active students majoring in accounting at the Semarang State Polytechnic was approximately 1,500 students with the sample calculated with an error of 10%, so the sample was determined as follows:

$$n = 2,520 / 1 + (2,520 \times 10\%^2)$$

$$n = 2,520 / 1 + 2,520 \times (0.12)$$

$$n = 2,520 / 1 + (2,520 \times 0.01)$$

$$n = 2,520 / 1 + 25.2$$

$$n = 2,520 / 26.2$$

$$n = 96.18$$

From the results of the Slovin formula with a population of approximately 2,520 students, the sample size was 96.18 and rounded up to 110 students who would be used as respondents in this research.

Before the data were analyzed, the validity and reliability of the instrument were first tested. Validity test is a test used to determine the validity or suitability of the questionnaire or questionnaire used by researchers in obtaining data from respondents. The validity test used is the Pearson validity test which uses the principle of correlation of each item score with the total score obtained in the research [12]. The basis for making decisions regarding validity test results is based on the following provisions:

1. If r calculated $> r$ table (with a significance of 0.05) then the measurement is valid
2. If r calculated $< r$ table (with a significance of 0.05) then the measurement is invalid.

The reliability test is used to test the level of trustworthiness of the questionnaire data used as a data collection tool. Where reliable is meant that the questionnaire can be relied upon even though the research is carried out repeatedly with the same questionnaire. The reliability test was carried out using the Cronbach's Alpha Test. If the test result value is greater than 0.6 or the calculated r is greater than the r table then the instrument is reliable [12]. Or based on the following criteria:

1. If $\alpha > 0.90$ then reliability is said to be perfect
2. If α is 0.70 – 0.70 then reliability is said to be moderate
3. If α is between 0.50-0.70 then reliability is called moderate
4. If $\alpha < 50$ then reliability is declared low.

This study also analyzes the classic assumption test as a requirement in the use of parametric statistics, namely the multiple linear regression test, which is used to find out that this data analysis can be continued with statistical parameters, namely the Normality Test, Multicollinearity Test, Heteroscedasticity Test, and autocorrelation test

The normality test aims to find out whether the data to be analyzed has a normal distribution or not. The normality test in this research data uses the Kolmogorov-Smirnov test. The basis for decision making is determined if the significance (α) $< 5\%$ then the data is said to be not normally distributed, conversely if the significance (α) $> 5\%$ then the data is said to be normally distributed. Another alternative step for the normality test is to use the Monte Carlo method using systematic development using random numbers. The purpose of doing Monte Carlo is to see whether the data is normally distributed or not from data that has been tested from samples that have random values or too extreme values.

The multicollinearity test is a test used to see whether or not there are similarities between variables in a model. When there are similarities between independent variables, this will cause a very strong correlation [13]. To determine whether multicollinearity exists or not, you can look at the Tolerance and Variance Inflation Factor (VIF) values. It is said that multicollinearity occurs if there is a tolerance value > 0.10 and a VIF value < 10 .

Heteroscedasticity is used to test whether in the regression model there is an inequality between the residual variance from one observation to another which is still called homoscedasticity, and if the residual variance from one observation to another

causes a difference then it is called heteroscedasticity [14]. The basis for decision making in the heteroscedasticity test using the Glejser test is as follows:

1. If the significance value (Sig.) is greater than 0.05, then the conclusion is that there are no symptoms of heteroscedasticity in the regression model.
2. On the other hand, if the significance value (Sig.) is smaller than 0.05, then the conclusion is that there is a symptom of heteroscedasticity in the regression model.

Autocorrelation Test is a test aimed at seeing in a linear regression model whether there is a correlation between confounding errors in period t and confounding errors in period t-1 (the previous period). The testing method that is often used in quantitative thesis research is the Durbin-Watson test (DW test) with the following conditions or basis for decision making:

1. If d (durbin watson) is smaller than dL or greater than (4-dL) then the null hypothesis is rejected, which means there is autocorrelation.
2. If d (durbin watson) lies between du and (4-dU), then the null hypothesis is accepted, which means there is no autocorrelation.
3. If d (durbin watson) lies between dL and du or between (4-dU) and (4-dL), then it does not produce a definite conclusion.

According to [10] multiple linear regression analysis is used to predict the condition (rise and fall) of the dependent variable, if two or more independent variables as predictor factors are manipulated (increasing and decreasing their values). The multiple regression model used in this research uses the following formula:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + e$$

Formula 2. Multiple Regression Model

Description

A = Constant

Y = Interest in Sharia Stock Investment

X1 = Financial Literacy

X2 = Investment Motivation

X3 = Religiosity

b1 = Coefficient X1

b2 = Coefficient X2

b3 = Coefficient X3

e = Error term

The T test is intended to determine the level of significance of the influence of each independent variable on the dependent variable assuming the independent variable [10]. To find out this influence, it can be seen from the significant values in the coefficients table from the regression results. If the sig value < 0.05 then it is significant, while the sig value > 0.05 is considered not significant.

The F test is used to test whether the independent variables jointly influence the dependent variable. This research uses the F test based on significance values. The basis for decision making in the F test based on the significance value is that if the significance

value is <0.05 then the independent variable simultaneously has a significant effect on the dependent variable and vice versa [15].

The coefficient of determination (R^2) states the proportion of variation in the dependent variable that is able to be explained by the estimator variable. The R^2 value ranges between 0-1, an R^2 value that is closer to 1 indicates that the influence of the estimator variable on the dependent variable is getting stronger. Conversely, the closer to 0 indicates the weaker the influence [16].

Result and Discussion

Results

Before the data is analyzed, the validity and reliability of the instrument are first tested. The validity test is used to measure whether a questionnaire is valid or not. This validity test is carried out by comparing the correlation results or r on the error rate of 0.05, and the correlation calculation results show valid figures for all statement items. Meanwhile, the validity test is used to determine the consistency of the answers to each statement answered by the respondent. The results of the validity test are carried out with the help of SPSS version 23.0. The research results show that all instruments from Financial Literacy, Investment Motivation, and Religiosity are declared reliable.

This research also analyzes the classical assumption test as a condition for using parametric statistics, namely the multiple linear regression test with statistical parameters, namely the Normality Test, Multicollinearity Test and Heteroscedasticity Test. The normality test aims to determine whether the dependent variable and independent variables contribute to the regression model or not. The test used for the normality test is Kolmogorov-Smirnov with a significance value of 5% or 0.05. If the statistical test result is more than 0.05 then the data can be said to be normally distributed. It is known that the normality of the test results shows a Significant Probability (2-tailed) value of 0.323, which is more than the value of 0.05, so it can be concluded that the residuals or research data are normally distributed.

The multicollinearity test aims to test whether a regression model has a relationship between independent variables. This can be seen from the tolerance value if it is more than or equal to 0.10 and the VIF value is less than 10, then this can indicate the existence of multicollinearity between the independent variables. Meanwhile, the results of the Variance Inflation Factor (VIF) calculation show that the tolerance value for all independent variables is more than 0.10 and the VIF is less than 10, so it can be said that in the regression model there is no multicollinearity problem.

Meanwhile, the heteroscedasticity test is carried out to test whether the regression model has variance and residuals from one observation to another. It is known that the probability value of the heteroscedasticity test results is greater than 0.05, thus the variables proposed in the research do not have heteroscedasticity.

The Autocorrelation Test aims to see in a linear regression model that there is a correlation between the confounding error in period t and the confounding error in period $t-1$ (the previous period). It is known that the Durbin Watson (DW) value is 1.848 and (DU) is 1.745 on the basis of decision making $DW > DU$, this shows that there is no autocorrelation.

Linear Multiple Regression Analysis

The results of multiple linear regression analysis through SPSS calculations can be seen in table 1.

Table 1. The Result of Coefficients Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta				Tolerance	VIF
(Constant)	-1.481	2.302			-0.643	0.521		
Financial Literacy	0.136	0.105	0.083		1.295	0.198	0.792	1.263
Investment Motivation	0.696	0.095	0.559		7.328	0.000	0.553	1.808
Religiosity	0.464	0.116	0.289		4.003	0.000	0.620	1.613

a. Dependent Variable: Investment Interest

Based on the output table, the results show that the results obtained by calculating multiple linear regression using SPSS version 23.0 for Windows are as follows:

$$Y = 0.518 + 0.210X_1 + 0.252X_2 + 0.184X_3 + 0.225X_4 + 0.213X_5 + e$$

- Constant Value (α) = -1.481. This means that if there are no Financial Literacy, Investment Motivation and Religiosity variables that influence Sharia Stock Investment Interest, then Sharia Stock Investment Interest is -1.481 units.
- Regression coefficient for the Financial Literacy variable (X_1) = 0.136. This means that if the Financial Literacy variable increases by one unit, interest in Sharia Stock Investment will increase by 0.136 assuming the other independent variables remain constant.
- Regression coefficient for the Investment Motivation variable (X_2) = 0.696. This means that if the Investment Motivation variable increases by one unit, interest in Sharia Stock Investment will increase by 0.696 assuming the other independent variables remain constant.
- Regression coefficient for the Religiosity variable (X_3) = 0.464. This means that if the Religiosity variable increases by one unit, Interest in Sharia Stock Investment will increase by 0.464 assuming the other independent variables remain constant.

T-test Analysis

The partial test or t test is used with the aim of finding out the influence of each independent or independent variable (X) on the dependent or dependent variable (Y) partially, and the results can also be seen in table 1 which can be explained as follows:

- Based on the output table above, it can be seen that the results of the significance test show that there is a probability value of $0.198 > 0.05$. This value can prove that H_{a1} is rejected, which means that "Financial Literacy has no significant effect on Interest in Sharia Stock Investment".

2. Based on the output table above, it can be seen that the results of the significance test show that there is a probability value of $0.000 \leq 0.05$. This value can prove that Ha2 is accepted, which means that "Investment Motivation has a positive and significant effect on Interest in Sharia Stock Investment".
3. Based on the output table above, it can be seen that the results of the significance test show that there is a probability value of $0.000 \leq 0.05$. This value can prove that Ha3 is accepted, which means that "Religiosity has a positive and significant effect on Interest in Sharia Stock Investment".

F-Test Analysis

Table 2. The Result of ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1975.881	3	658.627	68.109	.000 ^b
Residual	1025.037	106	9.67		
Total	3000.918	109			

a. Dependent Variable: Investment Interest

b. Predictors: (Constant), Financial Literacy, Investment Motivation, and Religiosity

From the F test results in the output table, the calculated F is 68.109 and the probability is 0.000. Because $\text{sig } 0.000 < 0.05$, it can be concluded that the variables Financial Literacy, Investment Motivation, and Religiosity simultaneously have a significant effect on Interest in Sharia Stock Investment.

Determinat Coefficient (R2)

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.811 ^a	0.658	0.649	3.11

a. Predictors: (Constant), Financial Literacy, Investment Motivation, and Religiosity

b. Dependent Variable: Investment Interest

Based on the output table, it shows that the coefficient of determination (Adjusted R2) = 0.649, meaning that the variables Financial Literacy (X1), Investment Motivation (X2), and Religiosity (X3) simultaneously influence the Sharia Stock Investment Interest variable by 64.9%, the remaining 35.1% is influenced by other variables not included in this research model.

Discussion

The Influence of Financial Literacy on Investment Interest

Financial Literacy does not affect Investment Interest. This is shown by the X1 regression coefficient value of 0.136, proving that there is a positive influence between sharia financial literacy and investment interest. As for the t test, it was obtained (t count)

$1.295 < 1.569$ (t table) and the probability was $0.198 > 0.05$, so the conclusion on the variable Sharia Financial Literacy (X1) H_0 was accepted, meaning that sharia financial literacy partially showed no influence on students' investment interest Semarang State Polytechnic Accounting Department. This means that the respondents in this research only understand or know about Islamic capital market investments from various existing sources of investment knowledge, namely seminars, training, and from various other sources including news, the internet and social media which provide a lot of insight regarding investment, however Semarang State Polytechnic Accounting Department students have not directly implemented the knowledge gained by investing in sharia shares.

The findings in this study are in accordance with research [4] said sharia financial literacy does not affect investment interest. [4] states financial literacy has no influence on interest in stock investment among students. There are reasons from previous studies regarding its absence the influence of sharia financial literacy on investment interest according to [4] because when investing in the capital market, having good financial literacy is not enough.

The influence of investment motivation on investment interest

Investment motivation has an influence on Investment Interest. This is proven by the results of the X2 regression coefficient, namely 0.696, proving that motivation has a positive effect on investment interest. As for the t test, it was found to be 7.328 (t count) > 1.569 (t table) and a probability of $0.000 < 0.05$, so the conclusion on the investment motivation variable H_{a2} was accepted, meaning that partially motivation had a positive and meaningful influence on the investment interest of students at the Polytechnic Accounting Department. The state of Semarang is subject to sharia shares. According to [17], taking into account various financial behaviors, motivation and self-confidence are needed to apply financial knowledge in one's decision making. In this case, motivation plays an important role in influencing a person's investment interest. So, the greater the motivation to invest, the greater the interest in investing. The findings of this research are supported by research [18] ; [4] ; [6] ; [5] ; which states that there is an influence between motivation and interest investment.

The Influence of Religiosity on Investment Interest

Religiosity shows an influence on Investment Interest. This is proven by the results of the regression coefficient X3, namely 0.464, proving that there is a positive influence between perceived returns and investment interest. As for the t test, it was found to be 4.003 (t count) > 1.569 (t table) and a probability of $0.000 < 0.05$, so the conclusion on the H_{a3} Religiosity variable was accepted, meaning that religiosity had a positive and meaningful influence on the investment interest of Semarang State Polytechnic Accounting Department students. This means that someone who is religious will prefer to invest in sharia shares. The level of religiosity can influence investment interest and varies for each individual. Some people choose to invest in sharia schemes because of religiosity while others choose because of considerations that are not because of religion but because of the capital gains and dividends received. Studies supporting the researchers' findings are studies from [7] which state that there is an influence of religiosity on investment interest. Meanwhile, the findings of this study are not in

accordance with the results of a previous study [19] where the results found that there was no significant effect between the religiosity variable and investment interest.

The Influence of Financial Literacy, Investment Motivation, and Religiosity on Investment Interest

Financial literacy, investment motivation, and religiosity influence the investment interest of Semarang State Polytechnic Accounting Department students in sharia shares simultaneously. This is shown in (F count) 68.109 then the probability is $0.000 < 0.05$, so H4 is accepted. Referring to the results of the coefficient of determination of 0.649, the conclusion is that financial literacy, investment motivation and religiosity can describe investment interest by 64.9%. Meanwhile, the remaining 35.1% is influenced by variables outside the model.

Conclusion

Based on the results of research analyzing the influence of financial literacy, investment motivation and religiosity on investment interest in sharia shares, financial literacy does not have a positive and significant influence on investment interest. Investment Motivation has a positive and significant influence on investment interest. Religiosity has a positive and significant influence on investment interest. Then, when tested simultaneously, it shows that financial literacy, investment motivation and religiosity have a positive and significant influence on investment interest. Based on the conclusions obtained in this research, the researcher provides suggestions for future researchers to be able to distinguish between respondents who already have investment knowledge and those who do not, increase the number of samples so that they can provide greater possibilities and show accurate results, and can examine other factors that influences interest in investing in sharia shares such as perception of returns, perception of return and risk, income, and so on so that it can provide more comprehensive results.

It is hoped that this research can provide implications for the government through programs that have been implemented to further increase activities that provide motivation and education for the community so that they become more familiar with and understand the importance of sharia investing for Muslims. It is hoped that the management of the Semarang State Polytechnic Investment Gallery can continue to provide education and training for students either through seminars or other activities to increase students' understanding and awareness of the importance of investing, especially sharia. Students who already have knowledge about investment are expected to be able to practice the theory they have acquired either independently or by utilizing the facilities on campus such as the Investment Gallery.

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E-SAMSAT AND MOTOR VEHICLE TAXPAYER COMPLIANCE IN THE PERSPECTIVE OF SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

This research aims to analyze various findings and comparisons related to the effectiveness of the e-samsat system in facilitating the vehicle tax payment process, as well as its impact on the level of tax compliance. The urgency of the research answers the strategic challenges of utilizing the e-samsat application in managing motor vehicle taxes and supporting the development of efficient and inclusive public services. Novelty of research by comparing perspectives across time, viewpoints, research trends that can have an impact on increasing taxpayer compliance. Systematic literature review method using *Preferred Reporting Items for Systematic Reviews and Meta Analyses* through collecting and evaluating various relevant literature. The results achieved show that e-samsat has great potential to improve taxpayer compliance by providing easier and more transparent access, and reducing administrative difficulties. In addition, this system provides convenience in terms of online payment and simplifies services and facilitates supervision to be more efficient and effective. Nonetheless, some technical and social challenges such as technological infrastructure and public awareness need to be considered to optimize the success of E-SAMSAT implementation. This research is expected to contribute to the development of technology-based taxation policies and improve motor vehicle taxpayer compliance in Indonesia.

Introduction

Transportation is one of the economic drivers of certain areas that support the mobility of people moving from one place to another. With modes of transportation that support economic activity activities to be resolved more quickly. And with the increasing population, of course, it also affects the demand for motorized vehicles, both two, four and more wheels. The increasing number of motorized vehicles is also followed by an increase in regional revenue from the contribution of motorized vehicle ownership [1]. On the one hand, with the ownership of more and more motorized vehicles, of course, it is the obligation of motor vehicle owners to make motor vehicle tax (PKB) payments [2].

PKB is levied by the local government on the ownership and/or control of motorized vehicles with wheels and driven by technical equipment in the form of motors and other equipment [3]. Objects of PKB also vary from motorcycles, tricycles, cars, buses and trucks. The selling value of motorized vehicles (NJKB) is based on the market price of motorized

vehicles, which is generally known by the owner of the motorized vehicle [4]. From these conditions, it is inversely proportional and it cannot be denied that not all motor vehicle owners are compliant with the taxes imposed on motorized vehicles. Compliance with PKB payments from motor vehicle owners is still said to be low and is a major obstacle in annual tax revenue in certain areas [5]. The lack of awareness of motor vehicle owners can affect the importance of tax revenue for the state. In addition, weak law enforcement and lack of innovation in the tax administration system result in suboptimal local tax revenue. On the one hand, the tax payment process that is still considered complicated is the reason taxpayers delay the payment of PKB obligations.

In addition, there are real obstacles in the field where the geographical location and accessibility of samsat services, especially in remote areas. Furthermore, there are illegal levies that occur and the level of digital literacy that is not evenly distributed among motor vehicle owners [6]. From these conditions, it was formed and implemented by the local government to provide convenience and transparency to taxpayers with the existence of e-samsat as well as an innovation step following the development of digital-based technology that allows motor vehicle taxpayers [7]. The next step with e-samsat makes it easier to find out the amount of unpaid obligations or find out the due date and the amount paid. On the one hand, with the existence of e-samsat, the effectiveness of its use and utilization is not optimal to increase taxpayer compliance.

With the implementation of e-samsat, it is expected to overcome the obstacles that occur in the field and can facilitate wider accessibility through digital platforms. E-samsat still needs to be studied comprehensively related to the level of taxpayer compliance in paying motor vehicle tax obligations [8]. The purpose of the research is to identify various factors that can affect the level of taxpayer compliance based on a systematic literature review. In addition, it can find effective strategies in utilizing e-samsat to increase compliance of motor vehicle taxpayers (PKB) and can provide recommendations to increase the effectiveness of e-samsat in increasing local revenue (PAD). From these objectives, it can provide empirical and practical answers based on the utilization of e-samsat in influencing compliance with paying motor vehicle tax obligations. The urgency of this research is to provide accurate information about the effectiveness of e-samsat in increasing compliance with PKB obligations. In addition, it provides an in-depth scientific study in determining effective strategies in PAD revenue and contributes to the development of a more effective and efficient e-samsat. Furthermore, it provides an in-depth understanding of the role of information technology to improve mandatory compliance of PKB. This research is very necessary to be carried out as an effort to unravel the very urgent need to utilize digital technology in public services at samsat (one-roof single administration system) to determine strategies to increase fiscal revenue in all regions. The novelty of this research is that it provides a comprehensive *systematic literature review* on the role of e-samsat in improving mandatory PKB compliance from various research sources across regions and time covering various perspectives.

Research Method

This research method utilizes scientific studies on articles published in nationally accredited journals using a systematic literature review (SLR) approach. This method approach is structured using the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA). The PRISMA flowchart describes the steps in screening articles in this study using 4 stages starting from the first identification: articles are searched through the

database with the help of Publish Or Perish (PoP) version 8 with the source google scholar with the keywords e-samsat and compliance of motor vehicle taxpayers. Second screening, the criteria used at this stage use inclusion and exclusion. The inclusion criteria include articles using Indonesian language, published during the last 5 years, articles published in accredited national journals on the open journal system (OJS) version 3, author, volume and publication number, research objectives, research methods using (quantitative or qualitative methods), population, research samples, keywords (keywords) and results (conclusions) and have relevance to the topic under study about e-samsat increasing compliance of motor vehicle taxpayers in the territory of Indonesia. While the exclusion criteria include scientific articles that are not from accredited national journals published on researchgate, core.ac.uk, repository, neliti.com, conferences, national journals, theses and theses. In addition, articles that are not relevant to e-samsat in increasing motor vehicle taxpayer compliance.

The third stage of eligibility, articles that meet the inclusion criteria are processed using Microsoft Excel by formulating various relevant data to produce charts that support information in this study. The last stage is included from eligible articles and then processed based on the patterns and trends of research that have been done so as to obtain a comprehensive picture of the state of the art in the field of study of the role of e-samsat in efforts to increase compliance of motor vehicle taxpayers. Analysis is carried out based on the results of the formula, extraction and integration of data to produce graphs or charts as well as images and tables to become sources of information and explanations based on arguments for the results of data processing.

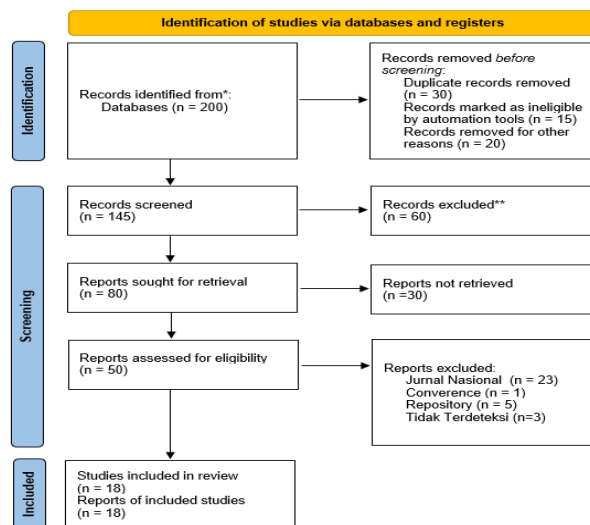


Figure 1. PRISMA Method

Result and Discussion

Based on the results that have been processed, the output of the resulting articles obtained 18 scientific articles that have relevance to the utilization of e-samsat to increase compliance of motor vehicle taxpayers. The following are the results of data processing based on the research contribution of each author related to e-samsat, motor vehicle taxpayer compliance and local revenue. There are authors who collaborate with other researchers who are relevant to this topic, including Vinny Stephanie Hidayat who contributed research as the second author of 4 articles spread across accredited journals Sinta 4, 5 and 6. In addition,

there are authors who contribute to the same research topic, namely Kadek Wulandari Laksmi P either as the first author or second author. Furthermore, authors who contribute with similar topics and spread in accredited national accreditation journals produce 1 article that is relevant to the author's competence.

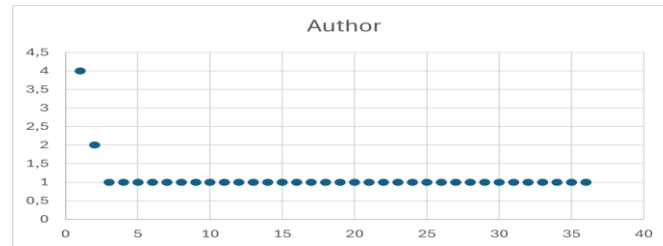


Figure 2. Author Contribution

Based on visualization on the year of publication based on accredited journals and with a time span of 2018 - 2024, it produces a trend in the distribution of article publications with a relatively consistent distribution of research results related to the topic of e-samsat in supporting motor vehicle taxpayer compliance. The distribution of publications is not only in certain accredited journals but is distributed and spread in sinta 3, 4, 5 and 6 journals. There are articles published in accredited sinta 3 journals that only appear in 2024 which shows the quality of research is more focused and focused on the topic of the role of e-samsat in increasing motor vehicle taxpayer compliance. Sinta 4 journals contribute the most and show the level of research based on relevant topics still on a medium national scale. In contrast to sinta 5 and 6, the results of publications in these journals have an impact on young and new researchers conducting research so that the contribution of young researchers can be increased starting from the lowest sinta journals, namely sinta 6 or 5.

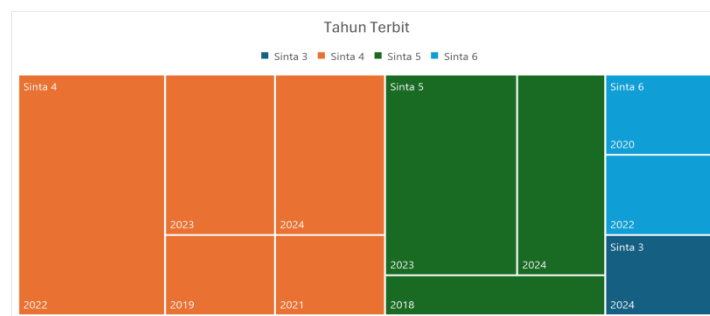


Figure 3. Year of Publication

The number of articles published in sinta 3 obtained a total of 1 (one), of which the best achievement shows the quality of research recognized by the academic community, sinta 4 with a total of 10 (ten) articles, while in sinta 5 there are 5 (five) and sinta 6 a total of 2 articles. From these results the authors publish articles based on the field of accounting with sub-fields in it with the topic of taxation and into the realm of public sector accounting. The distribution of scientific articles based on keywords produces a research trend on e-samsat on taxpayer compliance in increasing local tax revenue is still a topic for researchers. When viewed based on the year of publication, the average author conducted research in 2022 with the results of 5 publications, while in 2023 and 2024 each reached 4 publications,

2018 - 2021 resulted in 1 publication in a sinta accredited journal with the topic of e-samsat utilization, motor vehicle taxpayer compliance to increase local revenue.

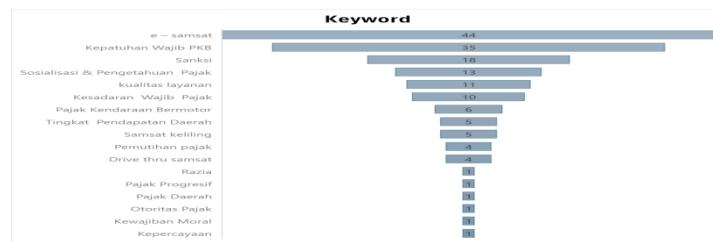


Figure 4. Keywords

The diagram shows that research trends based on the topic of e-samsat reached the highest frequency, followed by motor vehicle taxpayer compliance. From these keywords that appear more often and show that the research focuses on aspects of taxpayer compliance in utilizing digital technology. Most of the existing keywords are related to taxation that affects the acquisition of local revenue. Where the individual aspects of taxpayers include knowledge of taxes, quality of service, taxpayer awareness, mobile samsat that directly picks up the ball and goes to the community to use drive thru to increase local revenue. The frequency that appears on average one keyword indicates that the topic is still not a concern in conducting research. The small frequency includes raids, moral obligations, and taxpayer trust, which of course from this topic is relevant to the conditions in the field, especially taxpayers who can affect local revenue and can be a potential for further research. From these results, it can show that the concentration of research which is the main area is the effectiveness and implementation of e-samsat and efforts to increase compliance of motor vehicle taxpayers which of course affects the increase in local taxes.

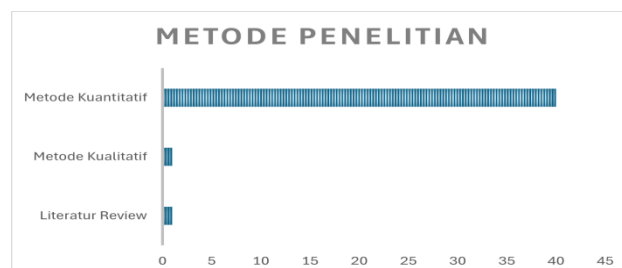


Figure 5. Research Methods

Based on the results of the visualization of research dynamics, the graph illustrates that the trend of research methodology is dominated by quantitative methods, which is the most dominant approach in relevant research. Quantitative methods use much larger data collection compared to qualitative methods. Quantitative data analysis is greater using statistics that can parse more general results. Meanwhile, qualitative methods are used as an increase in deeper insights based on phenomena and the researcher's experience is more tested in revealing the activities of motor vehicle taxpayers, besides that this method uses the researcher's individual arguments and there is high objectivity in this research. From these results, it shows that the focus of the research is carried out empirically based on numerical data to understand the phenomena that occur which are relevant to the e-samsat effect on the level of compliance of motorized vehicle taxpayers on local tax revenue. In addition, the tendency of quantitative methods is more measurable and statistically

analyzed. Meanwhile, the qualitative method sees more opportunities for the development of the use of e-samsat in the compliance of motorized vehicle taxpayers, which requires a deeper perspective on the phenomenon under study.

Table 1. Sample and Informants

OJS	Sample and Informants	Citation
Sinta 3	100	0
Sinta 4	4 Informants (1 PKB Head, 3 WP PKB)	57
Sinta 4	1.676	146
Sinta 5	58,275	105
Sinta 6	41	37

Based on the results obtained, it shows that samples are used in quantitative method research while informants are used in qualitative research. From these results, the publication in Sinta 3 uses a sample of 100 and the level of citation from other researchers is still not optimal because the published article is still relatively recently published so that other authors have not been able to fully assess and see these references. The sample used in Sinta 4 is relatively more diverse, meaning that there are two methods carried out by distributing questionnaires and depth interviews. The results obtained show research variations according to the author's ability to use a questionnaire-based sample with a total of 1,676 and direct interviews with the section head of one of the samsat in a particular area and using other informants, namely 3 motor vehicle taxpayers. Meanwhile, the citations used by other researchers on Sinta 4 tend to be relatively large, namely 203 citations. From these conditions, it can be interpreted that Sinta 4 journals are still the main choice used in research by other authors with relevant topics about the research conducted.

In the sinta 5 journal, the samples used amounted to 58,275, which indicates that the volume of samples used is quite large (high) but inversely proportional to the citations generated with a total of 105 citations. From these results, research conducted in Sinta 5 is still a reference for young researchers in increasing their competence in utilizing e-samsat to increase compliance of motor vehicle taxpayers. While the sinta 6 journal produced 41 samples and 37 citations made to published articles, showing these results obtained a better ratio between samples and citations in the journals above.

In the table below, based on articles obtained from trusted journal publishers and based on topics relevant to e-samsat in increasing compliance of motor vehicle taxpayers, it can certainly contribute directly to promoting state tax revenue.

Table 2. References used

No.	Author	Journal / Vol / No / Year Published / Link	Research Focus and Contribution	Citation
1	Mikael Wijaya Turnip, Humaizi, Muhammad Husni Thamrin	Perspective, Vol. 13, No. 4, 2024/. https://ojs.uma.ac.id/index.php/perpektif/article/view/12913	Shows that the level of compliance of motor vehicle taxpayers in the South Medan UPTD Samsat area can contribute to understanding the implementation of e-samsat based on case studies of technology-based services as an effort to improve taxpayer compliance. This research	0

			provides input on services in utilizing the e-samsat application in the surrounding area.	
2	I Gusti Ayu Mas Rosita Dewi, Kadek Wulandari Laksmi P	Scientific Journal of Accounting and Business / Vol.4, No.1 / 2019 / https://journal.undiknas.ac.id/index.php/akuntansi/article/view/2151	Unraveling the effectiveness of the e-samsat test, progressive tax and service quality that can potentially affect motor vehicle taxpayer compliance is a major factor in supporting state revenue with a level of efficiency and effectiveness in tax payments.	57
3	Anti Azizah Aprilianti	Assets: Journal of Economics, Management and Accounting / Vol. 11, No. 1 / 2021 / https://journal3.uin-alauddin.ac.id/index.php/assets/article/view/21405	The Effect of Taxpayer Awareness, Taxation Socialization, Tax Incentives, and the E-Samsat System on the Compliance of Motorized Vehicle Taxpayers during the Covid Pandemic - 19. This research was conducted to conduct an in-depth study of empirical evidence regarding taxpayer behavior during the Covid-19 period by optimizing the role of technology which was a supporting tool at that time in adapting tax policy as a basis for mitigating challenges.	60
4	Muhammad Dian Maulana, Dwi Septiani	Journal of Accounting / Vol. 14, No. 2 / 2022 / http://114.7.153.31/index.php/jam/article/view/4538	With the support of mobile samsat, it can increase the amount of state revenue which has a positive impact in addition to the use of e-samsat. Furthermore, the existence of tax sanctions can also strengthen state revenue so that taxpayers do not delay tax payments.	31
5	Latifa Novina Herawati, Vinny Stephanie Hidayat	Journal of Education / Vol.10, No. 1 / 2022 / https://ejournal.unesa.ac.id/index.php/jpak/article/view/45399	The implementation of e-samsat can increase the efficiency and transparency of motor vehicle taxpayers in making payments, which can also be proven if there is a payment history. Tax sanctions can also increase the potential for taxpayer compliance through pressure from external parties (e-samsat).	46
6	Kadek Wulandari Laksmi P, Ni Made Lira Amerti Putri Darsana, I G.N. Oka Ariwangsa	Scientific Journal of Accounting and Business / Vol. 7, No.1 / 2022 / https://journal.undiknas.ac.id/index.php/akuntansi/article/view/3401	From the results obtained, there is a significance of the research results with e-samsat, tax socialization on compliance of motor vehicle taxpayers in Denpasar city.	4
7	Deasty Puspa Ramadhan	Liquidity: Journal of Accounting and	The results obtained in this study with the implementation of tax sanctions can support taxpayer awareness in making tax payments. In	0

	ty, Iwan Setiadi	Management Research/Vol.11. No.1/ 2022/ https://www.ojs.itb-ad.ac.id/index.php/LQ/article/view/1342	addition, awareness is the main internal factor of taxpayer compliance, while there are external factors, namely tax sanctions that increase state revenue,	
8	Reka Rosita, Yanti, Yanti, Awaliawati Rachpriliani	Journal of Economic, Business and Accounting (COSTING) / Vol. 7.No. 1/ 2023/ https://journal.ipm2kpe.or.id/index.php/COSTING/article/view/7361	The focus of this research is more towards the level of taxpayer income, taxpayer awareness and e-samsat services on motor vehicle taxpayer compliance where by obtaining high income does not always actively participate in making tax payments. And with the tax sanctions imposed and the support of modern services can increase state revenue income.	0
9	Sri Rahayu, Barkah Rosadi, Muhammad Yusuf Alhadihaq	Journal Publicuho / Vol.6, No.2 / 2023 / https://journalpublicuho.uho.ac.id/index.php/journal/article/view/145	The existence of e-samsat can build the level of trust and compliance of motor vehicle taxpayers. The e-samsat application can strengthen the transparency of voluntary taxpayer compliance.	4
10	Devin Anton Haryanto, Ita Salsalina Lingga	Politala Journal of Accounting Research / Vol. 7, No. 1 / 2024 / https://jra.politala.ac.id/index.php/JRA/article/view/181	With tax sanctions and the application of e-samsat can increase compliance of motor vehicle taxpayers. The role of both has a significant impact where the use of the e-samsat application can simplify the number of installments paid while tax sanctions can increase the deterrent point to be obedient in paying taxes.	1
11	Dewi Kusuma Wardani	Akmenika: Journal of Accounting and Management Vol. 15, No. 1/ 2018/ https://journal.upy.ac.id/index.php/akmenika/article/view/999	The findings in this article are that the existence of e-samsat can provide satisfaction with the quality of service with the speed presented in the application. However, it can be an input, that with the taxpayer satisfaction that has been owned, it is not obliged to stop here but can develop itself so that public services make it easier for taxpayers to willingly comply with the application being implemented.	90
12	Rini Susanty, Vinny Stephanie Hidayat	Journal of Business and Economic Accounting / Vol. 9, NO. 1/ 2023/ https://journal	This article analyzes e-Samsat as a material to improve payment efficiency, reduce physical queues. and with tax sanctions can provide additional pressure for motor vehicle taxpayers so that taxpayer compliance can increase, especially for taxpayers who are not non-	4

		widyatama.ac.id/index.php/jabe/article/view/1495	compliant.	
13	Efendy Tjia Chun Che, Handra Tipa	eCo-Buss / Vol. 6, No. 1 / 2023 / https://jurnal.kdi.or.id/index.php/eb/article/view/801	The research results obtained focus more on taxpayer knowledge can affect the perception of taxpayer compliance. In addition, e-samsat and services can provide good motivation to increase taxpayer compliance. And the existence of tax sanctions can emphasize taxpayers to comply with applicable regulations.	2
14	Fahria Alting, Suwito, Fitriani Sardju	EKONOMIKA45: Scientific Journal of Management, Business Economics, Entrepreneurship / Vol. 11, No. 2 / 2024 / https://jurnaluniv45sby.ac.id/index.php/ekonomika/article/view/2545	The focus of this research on tax socialization expands understanding of the benefits and obligations of taxes and the existence of tax awareness can be a major factor influenced by the interaction of other variables. The e-Samsat application provides convenience for taxpayers so that they can easily find out the amount to be paid while tax sanctions are imposed to encourage compliant actions.	0
15	RD Putri, V Sofiani, H Tanjung	EKONOMIKA45: Scientific Journal of Management, Business Economics, Entrepreneurship / Vol. 5, No. 1 / 2024 / https://jurnaluniv45sby.ac.id/index.php/akuntansi/article/view/2498	This research focuses on how the combination of e-Samsat and mobile Samsat provides better accessibility for taxpayers. And taxpayer compliance can increase with a variety of services that cover the needs of urban and rural communities.	0
16	Hartanti Hartanti, Rr. Karina Alviani, Ratiah Ratiah	Online Journal of Accountants / Vol. 5, No. 1 / 2020 / http://101.255.92.196/index.php/JOIA/article/view/1327	The focus of this research is related to the services owned by the East Jakarta Samsat, namely mobile samsat, drive thru and e-samsat on tax revenue. Access to services using digital is prioritized to reduce costs and make it easier to make payments.	36
17	Edwina Septaviani Wiguna, Vinny Stephanie Hidayat	Journal of Accounting, Finance, Taxation and Auditing/ Vol. 4, No. 2 / 2022 / http://114.7.15.3.31/index.php/	The focus of this research is more on increasing taxpayer compliance by using integrated e-samsat with clear strict sanctions for those who do not make tax payments.	1

		jafta/article/view/7758	
18	Afifah Nur Insanny, Diamonali sa Sofianty, Riyang Mardini	Journal of Accounting Research (JRA) / Vol. 3, No. 1 / 2023 / https://journals.unisba.ac.id/index.php/JRA/article/view/1761	9
		The focus of the research conducted was to determine the effect of taxation knowledge and the application of the e-samsat application on motor vehicle taxpayer compliance. This study evaluates the increase in motorized vehicles every year which is a source of tax revenue. The results of this study utilize the e-samsat application to make it easier to pay tax obligations and increase taxpayer awareness and increase compliance. Increased tax understanding for WPKB (motor vehicle taxpayers) can contribute to WPKB tax revenue.	

Based on the information presented in the article above, the implementation of e-samsat utilization has been carried out by motor vehicle taxpayers (WPKB) on the pretext of time efficiency for waiting in the payment queue. In addition, the existence of e-samsat can increase transparency based on a voluntary tax payment system. According to research that has been conducted, the effectiveness of e-samsat can affect taxpayer compliance by applying strict sanctions for WPKB and government managers, especially the department of transportation (Dephub), continue to socialize motor vehicle tax revenue using e-samsat. Including providing knowledge about the benefits and functions of taxation, especially for WPKB.

With the speed of service using e-samsat, it can provide convenience for taxpayers to know the due date and the amount of tax to be paid so as to speed up payment by taxpayers. With this activity can provide satisfaction for WPKB.

Discussion

The implementation of e-Samsat has a significant impact in increasing the compliance of motor vehicle taxpayers (PKB) in various regions. Based on the analysis of the articles that have been collected, there are main findings with a comparison of the level of success, including the effectiveness of increasing taxpayer compliance in the South Medan area [9]. Results show that technology-based services such as e-Samsat improve taxpayer compliance. However, the adoption rate is still limited due to the lack of socialization in the local community. Denpasar [10] This study found that the implementation of e-Samsat is supported by good tax socialization. This contributes to increased taxpayer compliance in a large city with more established digital infrastructure. Comparison: Areas with better digital literacy and socialization (Denpasar) showed higher success than areas with limited socialization (Medan Selatan).

Ease of Access and Transparency [11] shows that the utilization of additional services such as Samsat Drive Thru and Mobile Samsat in East Java supports e-Samsat in improving transparency and accessibility. In urban areas, these services are more effective due to adequate supporting infrastructure. Remote Areas [12] shows that accessibility in remote areas is still a major challenge. Although e-Samsat is already implemented, digital infrastructure gaps limit adoption. Comparison: Services such as Samsat Drive Thru or Mobile Samsat increase the effectiveness of e-Samsat in urban areas, while remote areas require infrastructure development and improved digital literacy.

Effect of Socialization and Sanctions. The COVID-19 pandemic [13] showed that e-Samsat adoption increased during the pandemic due to the necessity of cashless payments. However, this is only effective in regions with a fairly high level of digital literacy. The Influence of Tax Sanctions [14] unraveled administrative sanctions to be one of the main driving factors to increase compliance. However, the success of this is highly dependent on the transparency of the e-Samsat system. Comparison: The influence of socialization and the application of sanctions are more effective in areas with good technological infrastructure, while other areas need more intensive support.

Contribution to Local Revenue (PAD) in big cities according to [15] increased local revenue from PKB thanks to e-Samsat which reduced extortion practices and increased efficiency. Regions with Limited Infrastructure [16] Although e-Samsat is implemented, the increase in contribution to PAD has not been maximized due to access barriers and low levels of taxpayer literacy. Comparison: Large cities see a more significant increase in PAD compared to regions with limited infrastructure.

Table. 3. Aspects of effectiveness

Aspects	City/Region (Effective)	City/Region (Less Effective)
Improving Taxpayer Compliance	Denpasar: High levels of literacy and socialization support e-Samsat adoption.	South Medan: Limited socialization, low e-Samsat adoption.
Ease of Access and Transparency	East Java: Drive Thru and Mobile Services improve accessibility.	Remote areas: Limited access due to lack of digital infrastructure.
Effect of Socialization and Sanctions	COVID-19 pandemic: Driving digital adoption in high-literacy regions.	Regions without sanctioned support: Slower adoption due to lack of pressure.
Contribution to PAD	Major cities: Significant increase in revenue due to efficiency and transparency.	Regions with limited infrastructure: PAD is not maximized due to access barriers.

State revenue derived from motor vehicles is of great concern to the government and can fulfill facilities and infrastructure [17], [18]. The contribution of state revenue related to motor vehicle taxes is regulated directly by local governments based on circulars and government regulations or local revenue regulations, which focus taxes on motor vehicles. Motor vehicle tax is objective because it is directly aimed at motor vehicle owners regardless of the income owned by the owner each year. The distribution of motor vehicle owners is also a concern for Samsat, whether within the city itself or outside the city or outside the island. Mandatory dues for motor vehicle owners are charged directly with the amount of tax clearly recorded on the STNK (Motor Vehicle Registration Certificate) which includes the year of production, cubic centimeter (CC) and so on contained in the proof of payment obligation and determined by SAMSAT officers from each region.

With e-samsat, vehicle tax payments are more easily tracked and quickly fulfilled and the existence of a history of motor vehicle payments increases trust and transparency [19]; [15], [20]. To fulfill motor vehicle tax revenue, alternative accessibility is provided to reach services in areas far from the central samsat office with mobile samsat services. The mobile samsat service is a ball pick-up method for WPKB with the aim of providing effectiveness to the surrounding community without the need to queue for long. The service

is carried out as an effort to improve the quality of public services, especially motor vehicle tax payment services. In addition, the drive thru samsat is also an alternative motor vehicle tax payment service to avoid crowds and queues. However, it cannot be denied that the drive thru samsat is not fully served by samsat in cities in Indonesia. Samsat that implement drive thru services are intended for big cities so as to reduce the density of queues at the payment counter.

Tax sanctions are strictly enforced to increase taxpayer compliance by applying fines when late or not making payments [12], [21]. Fines are an alternative to administrative sanctions for not fulfilling their obligations [22], [23]. The amount of tax fines is of course different for each motor vehicle owned by the taxpayer. Fines imposed when taxpayers do not make payments amount to between 2% - 50% on each vehicle and depend on how long it has not made payments. Sanctions, fines and compliance of motor vehicle taxpayers are very basic concerns to increase motor vehicle tax revenue.

Conclusion

Overall, the implementation of e-Samsat has proven to be effective in increasing compliance of motor vehicle taxpayers, but continuous improvement is still needed so that this system is more inclusive and accessible to all levels of society. The resulting conclusion is that e-Samsat can provide convenience for motor vehicle taxpayers in making tax payments, reducing long queues, minimizing administrative errors. In addition, it makes it easier for taxpayers to make motor vehicle tax payments. With easy access and a more efficient process, it is expected that more taxpayers will fulfill their obligations on time. An increase in the number of taxpayers paying taxes will directly impact the increase in local tax revenue, which is one component of PAD. With an integrated system, monitoring of motor vehicle tax payments becomes easier and more accurate. Local governments can more quickly identify potential tax deficits or excesses that need to be followed up. This encourages increased tax compliance which ultimately contributes to PAD growth. And to increase compliance for taxpayers, the role of tax sanctions is of great concern to taxpayers.

Further research can be carried out by comprehensively linking motor vehicle taxpayer compliance with the e-samsat digital platform by working with internet service providers and cellular operators and related agencies. In addition, transparency in e-samsat in monitoring irregularities in the payment process.

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ANALYSIS OF PAYROLL ACCOUNTING INFORMATION SYSTEMS AT THE MINISTRY OF RELIGIOUS AFFAIRS OFFICE IN SURABAYA CITY

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ABSTRACT

The Surabaya City Ministry of Religion Office is responsible for managing governmental duties in the religious sector. This research aims to analyze how the accounting information system for State Civil Apparatus (ASN) employee payrolls is applied in this office. This study is qualitative in nature, utilizing both primary and secondary data sources. Data were collected through interviews, observations, and documentation to provide a certain challenges remain. Common issues include outdated data in employee decrees and insufficient updates from employees, particularly regarding their children's education status. The research suggests several improvements, including enhancing human resources involved in the payroll system to facilitate a quicker understanding and application of updated government regulations related to ASN payroll. Additionally, conducting regular training for system users and scheduling routine audits on employee data could improve system efficiency. Improving the payroll accounting information system at the Surabaya Ministry of Religion Office is essential, and one recommendation is to implement a notification system to remind employees to update relevant data, such as decree information and children's educational status, to maintain data accuracy effectively.

Introduction

The Ministry of Religion is a government agency responsible for organizing government affairs related to religion and assisting the president in running the religious government. Its purpose is to improve people's understanding of religious teachings and improve the quality of their religious life. Government agencies need workers who have an important role in carrying out their activities. These workers can be employees or workers who help achieve organizational goals. Fair and appropriate compensation or salary payments are needed for employees to achieve the goals of government agencies.

In today's digital era, many jobs depend on computer-based technology. [1] stated that the development of increasingly advanced and increasing technology also affects the development of performance in achieving goals, the increasing technology in

carrying out operational activities must of course also be supported by the existence of quality human resources or employees. Computerized technology is very helpful and makes it easier for humans to complete tasks, including payroll in government agencies. Government institutions must implement payroll procedures to overcome problems or errors in storing data and calculating services that must be provided to employees every month .

Payroll must be managed professionally and properly so that it is not manipulated by certain parties. Incorrect payroll control can lead to a decrease in the quality and quantity of employee work because good procedures in government offices can encourage employee work ethics in carrying out their respective duties and responsibilities. With this motivation, less productive employees can become more productive, and productive employees can be retained to achieve the goals of government institutions that have high levels of productivity. This requires support from a payroll system designed to store employee data and handle salary calculations and payment processes.

The government focuses on providing services to the community and implementing the government's vision and mission, while commercial companies focus more on generating profits or gains. Government Regulation Number 15 of 2019 concerning the eighteenth amendment to Government Regulation Number 7 of 1977 concerning Civil Servants (PNS), signed by the President concerning personnel, regulates the civil service salary system. The basic salary of civil servants must be adjusted according to the applicable Government Regulation. However, the applicable Civil Service salary procedures have not fully met expectations because there are several obstacles.

Information technology systems are one of the technologies widely used by companies to carry out their operational activities by implementing this system correctly, it is expected that employee performance will increase. Through the existence of a payroll accounting system, it will minimize fraud or errors that occur in a company that can cause the company to experience losses, either intentionally or unintentionally. Another benefit obtained by the existence of a payroll accounting system is that it can regulate the activities of a company so that the company can run smoothly without fraud related to finances [2].

The Surabaya City Ministry of Religious Affairs Office is one of the accounting entities in accordance with the Regulation of the Minister of Religious Affairs Number 13 of 2012 which stipulates the Surabaya City Ministry of Religious Affairs Office as one of the accounting entities. Regarding the Structure and Procedures of the Vertical Agency of the Ministry of Religious Affairs Madrasah Education, Early Childhood Education and Islamic Boarding Schools, Islamic Religious Education, Hajj and Umrah Organization, Islamic Community Guidance, Sharia Organization, Christian Organization, and Functional Position Groups are all its responsibilities. Payroll processing did not go as expected due to several obstacles. Common obstacles are data that is not updated or updated, and the employee's own obstacle is the child's college information data that is not updated. In order to accelerate the payroll system that has been integrated with the payroll accounting system, periodic employee data checks are needed.

[3][4][5] "Accounting information system is a system that processes data and transactions to produce data that is useful for planning, supervising and running business operations". "Accounting Information System is a system that focuses on collecting, processing, controlling, presenting and providing financial report information to be used as an object in decision making" [6] [2]. Accounting information systems must be designed to meet government regulations and needs for management information. Incomplete or incorrect payroll records not only complicate decision making but can result in fines and detention, so an effective and efficient payroll system is essential [7].

Based on [8] states that the network related to carrying out employee payroll includes: (1) Attendance recording procedure, used to document employee attendance records. (2) Payroll procedure, this process functions to create an employee payroll list which is used as the basis for paying employee salaries. (3) Salary payment procedure, the salary payment process involves accounting and financial functions.

[9]"Accounting information system is a system that processes data and transactions to produce data that is useful for planning, supervising and running business operations". "Accounting Information System is a system that focuses on collecting, processing, controlling, presenting and providing financial report information to be used as an object in decision making" [10]. Incomplete or incorrect payroll records not only complicate decision making, but can result in fines and detention, so having an effective and efficient payroll system is essential [11].

Based on [12] states that the network related to carrying out employee payroll includes: (1). Attendance recording procedure, used to document employee attendance records. (2). Payroll creation procedure, this process functions to create an employee payroll list which is used as the basis for paying employee salaries. (3). Salary payment procedure, the salary payment process involves accounting and financial functions.

Based on the explanation above, the author wants to know how the payroll of the State Civil Apparatus (ASN) at the Surabaya City Ministry of Religious Affairs Office is carried out. The author conducted a study entitled "Analysis of the Payroll Accounting Information System at the Surabaya City Ministry of Religious Affairs Office". The objective to be achieved in this study is to prove and analyze how the payroll accounting system at the Surabaya City Ministry of Religion Office.

Research Methods

This study uses a descriptive qualitative research method. The location of this study is at the Office of the Ministry of Religious Affairs of Surabaya City, located at Jln. Masjid Agung Timur no. 4 Surabaya. This case study is designed to study the phenomenon of ASN payroll at the Surabaya City Ministry of Religious Affairs Office and determine whether ASN uses an accounting information system. The author conducted this research in government institutions, especially at the Surabaya City Ministry of Religious Affairs Office, and the author conducted it for two months. The research was conducted using a qualitative method, which uses word data rather than numbers. Descriptive methods are used to provide an overview of payroll problems.

The research was conducted using a qualitative method, which uses word data rather than numbers. Descriptive methods are used to provide an overview of payroll

problems. The subjects in this study were the financial staff, while the object was the Analysis of the Employee Payroll Accounting Information System at the Office of the Ministry of Religious Affairs of Surabaya City.

Data collection techniques with interviews, observations and documentation. Interactive model data analysis [13], namely: Data Reduction, Data Presentation, Data Verification, Drawing Conclusions. In validating the data, the study used method triangulation and source triangulation. Method triangulation was conducted by conducting interviews with valid informants and conducting observations at the research location. Source triangulation was conducted by comparing data from the targeted informants in the finance section of the Surabaya City Ministry of Religious Affairs Office.

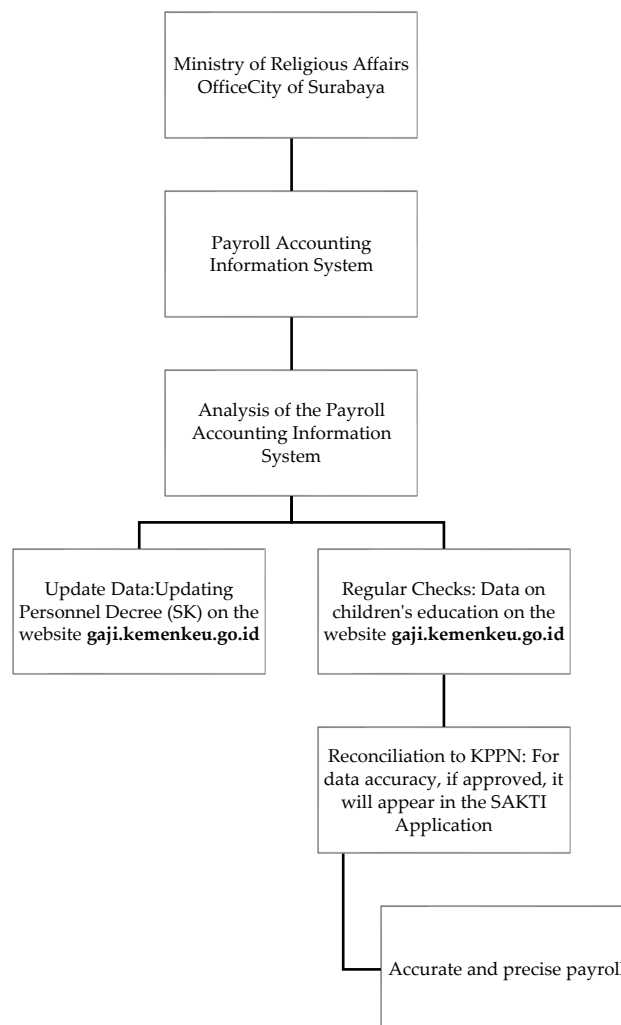


Figure 1. Framework of thinking

Result and Discussion

The Office of the Ministry of Religious Affairs of Surabaya City is located at Jalan Masjid Agung Timur No.4 Surabaya is a Ministry Agency in the Central Government of Indonesia that handles all aspects related to religion. However, this study discusses the

employee payroll accounting information system at the office of the Ministry of Religious Affairs of Surabaya City.

Salary is a monthly compensation given by government agencies to employees. Salary is a right of achievement that must be received by employees. Salary has an important role as a motivator in working, so that employees feel calm working and create social status in society. Tasks, responsibilities, and levels of effort must be given the same and fair salary. In addition, there must be external justice, namely the salary received must be in accordance with the salary received in other companies for the same job. At the Office of the Ministry of Religion of Surabaya City, the salary recording process is carried out by the expenditure treasurer and paid once a month regularly according to the specified date. The salary of employees at the Surabaya City Ministry of Religion office uses a system which is in accordance with research [14] states that a system must have two activities; first, there is input which is a source of energy for a system to operate; second, there are operational activities (processes) that change input into output in the form of operational results (goals/targets/targets of operating a system).

Discussion of the results of the research that has been conducted at the Office of the Ministry of Religious Affairs of Surabaya City is related to the employee payroll accounting information system. Documents used in the Payroll Accounting System according to [15] are, Supporting documents for salary and wage changes, Attendance card, Work time card, Payroll, Payroll summary, Salary statement letter, Pay envelope, Proof of cash out. Employees use attendance cards to record employee attendance in the form of online attendance using the Pusaka application if there are obstacles in the application system, employee attendance uses a manual signature, the absence is a determinant of the amount of employee salary.

The salary recording process is carried out by the Treasurer of Expenditures and is paid once a month regularly according to the specified date. Based on the results of interviews with respondents at the Surabaya City Ministry of Religious Affairs Office, employees use attendance cards to record employee attendance in the form of online attendance using the Pusaka application. If there are obstacles in the application system, employee attendance uses manual signatures. This attendance determines the amount of employee salary.

The document used is a salary envelope, while at the Surabaya City Ministry of Religious Affairs Office, salary envelopes are no longer used because there are salary account books for each employee, so the wages received will be transferred to each employee's account. Proof of cash out is in the form of information on the SAKTI system as an accounting system at the Surabaya City Ministry of Religious Affairs Office.

The aspect of the document procedure can be seen that the personnel function issues a Decree as the basis for payroll, while the financial function makes a payroll list, a list of changes to employee data, a salary summary, a tax deposit letter, a payment request letter, a salary payment order letter for the basis for salary payment, this is said that for the document it is in accordance with the procedures in the Surabaya City Ministry of Religious Affairs Office and in line with [1] research.

Accounting records used at the Surabaya City Ministry of Religion Office have used a system, namely the SAKTI application. According to [16] Sakti is an application

built to support the implementation of the State Treasury and Budget System, the SAKTI application used in 2022 is a combination of previously existing applications, namely the Ministry of Institutions Budget Work Plan application, Work Unit Accounting System, Accrual-Based Agency Accounting System, State Property Management and Accounting Information System, application, Central Government Salary, Treasurer application and Inventory application.

Based on findings in the field, in the theory that has been presented that the document used is a salary envelope, while at the Surabaya City Ministry of Religious Affairs Office, salary envelopes are no longer used because there are salary account books for each employee, so the wages obtained will be transferred to each employee's account. Cash disbursement evidence in the form of information on the SAKTI system as an accounting system at the Surabaya City Ministry of Religious Affairs Office. The document procedure aspect can be seen that the personnel function issues a Decree as the basis for payroll, while the financial function creates a payroll list, a list of employee data changes, a salary summary, a tax deposit letter, a payment request letter, a salary payment order letter for the basis for salary payment, this is said that for the document it is in accordance with the procedures in the Surabaya City Ministry of Religious Affairs Office.

Field findings for organizational aspects show that the functions related to the payroll system include personnel functions and financial functions. The operational function is carried out by the personnel department which issues a decree on promotion, recruiting new employees, transferring employees, employee transfers, leave, retirement and dismissal of employees. The financial function to calculate and process salaries with the help of a web-based system www.kemenkeu.go.id both monthly master salary, continuation, follow-up salary, and salary shortfalls, salary calculations at the Surabaya City Ministry of Religious Affairs Office are carried out by the expenditure treasurer every month and according to his rank. The payment function is carried out by the State Treasury Service Office (KPPN) by issuing a Fund Disbursement Order (SP2D). Findings in the field can be said that the organizational aspects are in accordance with the research [8].

Documents used payroll documents used at the Surabaya City Ministry of Religious Affairs Office are Decree, Salary List, Employee Change List, Salary Summary, Tax Payment Letter, for payment documents Payment Order and Fund Disbursement Order. This is done so that the government can more easily conduct evaluations, because each section has supporting documents for healthy accounting records. The accounting records used to pay employees at the Surabaya City Ministry of Religious Affairs Office already use the Agency Level Financial Application System (SAKTI) and employee payroll accounts. Accounting records are entered into the SAKTI application and then transferred by the Bank to each employee's account.

Previous research that confirms the results of this study, namely [7] on the Analysis of Civil Servant Payroll Accounting Information Systems at Gorontalo State University, the Payroll Accounting Information System implemented at UNG is quite good and the functions are interrelated. In line with these results [17] in their research on the Employee Payroll Accounting Information System in the Representative Area of the National Population and Family Planning Agency (BKKBN) of West Sumatra

Province, the payroll procedure at the BKKBN Representative Office of West Sumatra Province has been carried out properly and fairly because in determining the amount of salary, everything is based on the latest government regulations.

Analysis of payroll documents used at the Surabaya City Ministry of Religious Affairs Office, namely Decree (SK), Payroll List, Employee Change List, Payroll Summary, Tax Payment Letter (SSP), for payment documents Payment Order (SPM) and Fund Disbursement Order (SP2D). This is done to make it easier for the government to conduct evaluations, because each section has supporting documents for healthy accounting records. Accounting records at the Surabaya City Ministry of Religious Affairs Office no longer use manual records but use the Agency Level Financial Application System (SAKTI), an application used as a means for work units to support the implementation of the State Treasury and Budget System (SPAN) to carry out financial management covering the planning stages to budget accountability, Sakti integrates all existing work unit applications. Based on field findings, the procedure for recording employee attendance using online attendance cards on the Pusaka application which has been in effect since March 20, 2023, if an error occurs in the Pusaka application, attendance is signed manually. Attendance is used to document employee attendance records, whether employees will receive full compensation or be subject to deductions, because it can be decided by looking at the available attendance list including seeing employees working according to hours or overtime and other documents related to salary changes. This research is in line with [14] research.

Network Analysis of procedures that form the system at the Surabaya City Ministry of Religious Affairs Office consists of making a payroll list and salary payment procedures are adequate. The payroll system at the Surabaya City Ministry of Religious Affairs Office uses an application, namely the website www.gajikemenkeu.go.id to facilitate payroll. This application records all employee data. The data recorded in this application is synchronized directly with the payment party, namely the State Treasury Service Office (KPPN). However, when submitting a salary, sometimes the system is rejected by the KPPN due to the invalidity of employee data, including general obstacles in the form of data that is not updated from the employee decree, while from the employee itself in the form of data on children's college information that is not updated. Every time there is an obstacle or problem with the system during payroll, the agency must involve an external party, namely the Treasury Service Office (KPPN).

Based on the analysis above, it is known that the system at the Surabaya City Ministry of Religious Affairs Office was built with the objectives of the agency. The payroll accounting information system also aims to ensure the accuracy of employee salary payments both in terms of amount and time of payment. The payroll accounting information system that has been implemented at the Surabaya City Ministry of Religious Affairs Office has been running properly and in accordance with applicable regulations. This study is in line with research [18] on the Analysis of Civil Servant Payroll Accounting Information Systems at Gorontalo State University, the Payroll Accounting Information System implemented at UNG is quite good and the functions are interrelated. and also research [19] in their research on the Employee Payroll Accounting Information System in the Representative Area of the National Population and Family Planning Agency (BKKBN) of West Sumatra Province, the payroll procedure

at the West Sumatra Province BKKBN Representative has been carried out properly and fairly because in determining the amount of salary, everything is based on the latest government regulations.

Conclusion

Based on the results of the research and discussion that has been done, the following conclusions can be drawn: The payroll system implemented at the Surabaya City Ministry of Religious Affairs Office has been run according to the Standard Operating Procedure (SOP) based on the existing Accounting Information System. The payroll system has been computerized using the website www.gajikemenkeu.go.id to process payroll, for the practical aspect it has been running well because the activities have been clearly recorded.

The author provides suggestions for improving the quality of the payroll accounting information system at the Surabaya Ministry of Religious Affairs Office. For example, developing a notification system for updating SK data or children's education status that can help employees update data more effectively. System improvements are made so that there are not many obstacles that cause errors and delays in employee payroll. There needs to be increased training for system users to overcome existing obstacles, or routine scheduling for employee data audits, improving Human Resources (HR) in the State Civil Apparatus (ASN) employee payroll system, with the aim of facilitating the absorption of the latest government regulations on the payroll of State Civil Apparatus (ASN) employees so that they are easier to understand and implement faster.

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FACTORS AFFECTING FRAUDULENT FINANCIAL STATEMENTS USING FRAUD TRIANGLE ANALYSIS (Study of Manufacturing Companies Listed on the Bursa Efek Indonesia)

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ABSTRACT

This research aims to determine the influence of the fraud triangle on the influence of existence financial statement fraud. The factors in the fraud triangle consist of three indicators these include (1) Pressure is proxied by financial targets (ROA) and financial stability (ACchange), (2) Opportunity is proxied by Nature of Industry (Receivable) and Ineffective Monitoring (IND), (3) Rationalization is proxied by Change in auditor (CiA). There are 5 (five) independent variables that are hypothesized to influence financial statement fraud and The dependent variable fraud (F-score) is used to determine the presence of fraudulent reports finance. This research uses a quantitative approach with a sample consisting of 180 people manufacturing companies listed on the Bursa Efek Indonesia for the observation period 2019 - 2023 using the purposive sampling method and multiple linear analysis using SPSS software version 16. The research results show that the financial stability variable (ACchange) has a positive effect, Nature of Industry (Receivable) has a negative effect, and Ineffective Monitoring (IND), has an effect negative, towards fraudulent financial statements. Meanwhile, the financial target (ROA) and variables change in auditor (CiA), has no effect on fraudulent financial statements in the company manufacturers listed on the Bursa Efek Indonesia (BEI) for the period 2019 -2023 .

Introduction

In the 4.0 era, accounting science is developing rapidly to meet society's needs in preparing financial reports. In accordance with the IAI statement, regulated in PSAK no. 1, which details the requirements for presenting financial statements, financial structure and minimum requirements. If there is deliberate deviation, this can be considered an act of fraud [1].

Companies need to be prepared to face various threats and implement various business strategies, including anticipating fraud. Manipulation in financial reports has

the potential to damage the relevance of the information contained therein and produce major distortions, which ultimately confuse stakeholders [2], and one of the biggest latent threats to the business world is fraud [3].

SAS No. 99, which discusses Fraud Considerations, states that management has special skills that enable them to commit fraud as a means of changing the presentation of financial statements. Therefore, the method for analyzing this as a step to detect fraud in financial reports can be understood by considering the factors related to the fraud triangle theory which consists of pressure, opportunity and rationalization [4].

This research focuses on the corporate manufacturing sector, where company owners are unlimitedly liable, meaning their personal wealth can be used as collateral to pay the company's debts. In addition, manufacturing companies have risks related to company obligations due to obtaining external funding, thereby increasing the possibility of fraud in financial reports. With this background, the formulation of the problem in this research is: (1) Does financial target influence financial statement fraud?, (2) Does financial stability influence financial statement fraud?, (3) Does the nature of industry influence report fraud ? finances?, (4) Does ineffective monitoring affect fraudulent financial statements?, (5) Does a change in auditor affect fraudulent financial reports? This research aims: (1) To determine the influence of financial targets on fraudulent financial statements, (2) To determine the influence of financial stability on fraudulent financial statements, (3) To determine the influence of nature of industry on fraudulent financial statements, (4) To determine the influence ineffective monitoring of fraudulent financial statements, (5) To determine the effect of changing in auditors on fraudulent financial statements.

Research Methods

1. Type Study and Description from Population

The research was conducted using quantitative methods by utilizing secondary data. Quantitative methods are research approaches where the data collected can be measured and analyzed in the form of numbers. Secondary data refers to information that has been previously processed and obtained from various sources. The data source used is the Bursa Efek Indonesia (BEI) during the 2019-2023 period. The population studied were manufacturing companies listed on the IDX, with a time span of 2019-2023.

2. Research variable

The independent variable is the variable that is the cause of the influence on the dependent variable. In this research, the independent variable can influence the emergence of the dependent variable. The independent variables are financial targets, financial stability, nature of industry, ineffective monitoring, and Rationalization. Meanwhile, the dependent variable is a variable that is influenced by the existence of an independent variable. In this research, what is included in the dependent variable is financial statement fraud.

3. Technique Taking Sample

The sampling method used is the Purposive Sampling technique, which involves selecting samples based on certain criteria. The criteria used in sampling for this research are as follows: (1) Manufacturing companies listed on the Bursa Efek

Indonesia in the 2019-2023 period, and (2) Manufacturing companies that consistently publish complete financial reports during the 2019-2023 period in Bursa Efek Indonesia.

4. Data Types and Sources

The data used in this research is secondary data. Secondary data is data that is processed first and obtained from other sources as additional information. In this research, data was taken from the Bursa Efek Indonesia Gallery STIESIA Surabaya office. The type of data used in this research is quantitative data, quantitative data is data whose amounts can be calculated and the data is numerical. The data in this research consists of financial reports of manufacturing companies listed on the Bursa Efek Indonesia during 2019-2023.

5. Data collection technique

The data collection technique used in this research is documentation. The documentation carried out was collecting archival data and financial reports of industrial companies in the manufacturing sub-sector of the consumer goods industry for the period 2019-2023. This research also uses secondary data obtained from the Indonesian Stock Exchange.

6. Data analysis technique

Normality test

The normality test is very significant data that is used to find out whether the data to be used is regularly distributed or not. The Kolmogorov-Smirnov test and Probability plot graphs were used in this study to determine normality.

Multicollinearity Test

A good regression model is that there is no relationship between the independent variables in a decent regression model [5]. The multicollinearity test is used to test whether there is a correlation between the independent variables or independent variables in the regression model, therefore the Variance Inflation Factor (VIF) and Tolerance are used to see whether there is multicollinearity in the research data.

Heteroscedasticity Test

Unbalanced variance of the residuals in the regression model is detected using the heteroscedasticity test. When the regression model revealed heteroscedasticity, the investigation was considered unsatisfactory. The pattern created by the scatterplot graph between SRESID and ZPRED can be seen to detect the presence or absence of heteroscedasticity

Multiple Linear Regression Analysis

This research uses a multiple regression analysis method which is used to test the influence of independent factors in the form of parts or components of the fraud triangle, such as opportunity, rationalization, and assurance, as well as the dependent variable, financial statement fraud. Data analysis in this research uses the SPSS 16 statistical program., with the following equation:

$$F\text{-SCORE} = \beta_0 + \beta_1 \text{ROA} + \beta_2 \text{AChange} + \beta_3 \text{Receivable} + \beta_4 \text{IND} + \beta_5 \text{CiA} + \varepsilon$$

Information:

F-SCORE : Financial Report Fraud

β_0	: Constant
β_1 ROA	: Return on assets
β_2 AChange	: Total asset change ratio
β_3 Receivable	: The ratio of total receivables to operating income
β_4 IND	: Ratio of independent board of commissioners
β_5 CiA	: Change of independent auditor
ε	: Error

Determination Coefficient Test (Adjusted R²)

The model's ability to explain variations in the independent variables is measured using the determinant coefficient test (Adjusted R²). Adjusted R² has a value of 0 (zero) or 1 (one). When the independent variable explains the dependent variable, a relatively small R² value has limited power. If the Adjusted R² value is close to 1 (one), then the independent variable provides almost all the information needed to predict the dependent variable [5].

Model Feasibility Test (F Test)

Model Feasibility Test, which is often called the F test, is used to verify that the model that will be used to carry out regression analysis is valid. The significance of the regression findings shown in the ANOVA table was also tested using the F test by looking at the significance level of the F value in the output of the regression results. If the significance value is greater than 0.05 then the regression model is not good (not fit), and if the regression model value is smaller than 0.05 then the regression value is good (fit) [5].

Hypothesis Test (t Test)

The significance of the independent variable on the dependent variable is determined using hypothesis testing or t-test in the regression model of this research. Whereas a two-sided hypothesis test will be chosen if the researcher does not have strong suspicions based on the theory used in the research [6]. On the other hand, if the researcher only chooses one side, he already has a strong theoretical basis or theoretical conjecture in his research. The following are several guidelines for deciding whether a hypothesis should be accepted or rejected (1) Probability value $< \alpha$, then H₀ is rejected, H₁ is accepted. (2) Probability value $> \alpha$, then H₀ is accepted, H₁ is rejected.

Results And Discussion

1. Results

Statistics Descriptive

Analysis descriptive is method Which related with collection And presenting data so that it can become useful information. Deep descriptive analysis This research is presented through financial statement fraud as the dependent variable, Financial Target which is proxied by Return On Assets (ROA), Financial The stability proxied with AChange, Nature of Industry Which proxied with Receivable, Ineffective Monitoring which is proxied by (IND) and Fraudulent financial statements which is proxied with (F-Score) as variable independent.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
FSCORE	180	-4.1678	1.1473	.306725	.5242922
ROA	180	-.2140	.9210	.090938	.1414236
AChange	180	-3.8033	.6263	.047166	.3145223
Receivable	180	-.1947	2.0832	.010206	.1618966
IND	180	.2000	1,0000	.435352	.1349229
CiA	180	.0	1.0	,139	.3468
Valid N (listwise)	180				

Source: Report Finance in exercise 2024

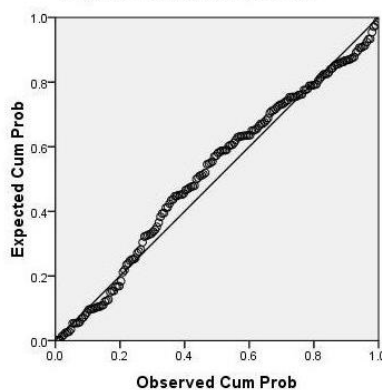
Based on Table 1, it shows that the mean resulting from FSCORE is smaller of the standard deviation, this means that the distribution of values for the variable is quite good, so that No happen gap mark Which Enough big between FSCORE Lowest (minimum) and highest (maximum) in the 2016-2020 period. Likewise the mean value of ROA, AChange, Receivable And CiA more small from standard deviation. This condition means that there is a fairly large value gap between ROA, AChange, Receivable and CiA Lowest (minimum) And highest (maximum) in period 2019 -2023.

Classic Assumption test

Test Normality

Test normality data determine is data Which will used distribute regular or not. The Kolmogorov–Smirnov test and Probability plot graphs were used for do test normality in study This. Results normality testing was carried out using the Normal Probability Plot (P-Plot) and the Kolmogorov-Smirnov test. Result of P-Plot And test Kolmogorov-Smirnov is visible on Picture 1 And Table 1 following This:

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: FSCORE



Picture 1 P-Plot Graph

Source: Report Finance in exercise 2024

Based on Figure 1 above, it shows that the data is normally distributed, because dot, dot, dot spread around line diagonal And follow direction line diagonal.

Table 2. Test Normality Data One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		180
Normal Parameters a	Mean	.0000000
	Std. Deviation	.36540284
Most Extreme Differences	Absolute	,082
	Positive	,047
	Negative	-.082
Kolmogorov-Smirnov Z		1,096
Asymp. Sig. (2-tailed)		,181

Source: Report Finance in exercise 2024

Based on Table 2, show that mark Asymp. Sig as big as 0.181 Which means more big from 0.05, so that can stated that in study This data distribute normal. With thereby model regression has fulfil test normality

Test Multicollinearity

Test multicollinearity used For test is model regression identify the existence of a correlation between independent or independent variables, so that possible For see is there is multicollinearity in data study with apply Variance Inflation Factor (VIF) 10 And Tolerance >0.10 seen on Table3 following This:

Table 3. Test Multiconierity

		Collinearity Statistics	
Model		Tolerance	VIF
1	(Constant)ROA		
		0.948	1,055
	AChange	0.963	1,038
	Receivable	0.962	1,039
	IND	0.983	1,017
	CiA	0.952	1,051

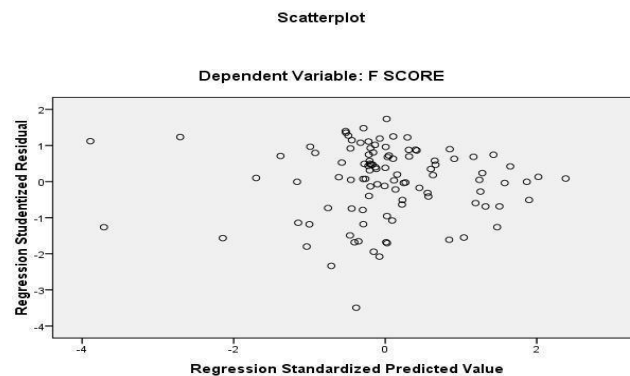
Source: Report Finance in exercise 2024

Based on Table 3, it shows that the tolerance figure for the five variables is ROA as big as 0.948, variable AChange as big as 0.963, variable Receivable as big as 0.962, IND of 0.983 and the CiA variable of 0.952. It can also be seen if the VIF value of the fifth variable that is ROA as big as 1,055, variable AChange as big as 1,038, variable Receivable as big as 1,039, variable IND as big as 1,017, And variable

CiA as big as 1,051. Matter This shows that the tolerance value is > 0.1 and the VIF value is < 10 , so it can be concluded that between variable independent with model regression No happen multicollinearity, the data shows assumptions multicollinearity has been fulfilled.

Test Heteroscedasticity

Test heteroscedasticity used For know is residual in model regression own variance Which No balanced. Results testing multicollinearity with use Scatterplots seen on Picture 2 following This:



Picture 2. Heteroscedasticity Test Results

Source: Report Finance in exercise 2021

Based on Figure 2 above, it can be seen that pattern dot, dot, dot scatterplot No form pattern And dot, dot, dot spread around point 0 And axis Y, so that can concluded that study This free from heteroscedasticity.

Analysis Regression Linear Multiple

Study This use method analysis regression multiple Which know relationship between financial statement fraud variables and proxies from the fraud triangle that is financial target, financial stability, nature of industry , ineffective monitoring , And Rationalization as a fraud factor with a regression model. This test is carried out with use SPSS 16 And obtained results on Table 4 following This:

Table 4. Results of Multiple Linear Regression Analysis

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
			Std. Error	Beta	t	
1	(Constant)	,635	,095		6,671	,000
	ROA	.033	,201	,009	,164	,870
	Achange	1,076	,090	,646	11,992	,000
	Receivable	-.727	,174	-.224	-4,167	,000
	IND	-.840	,207	-.216	-4,059	,000
	CiA	-.066	,082	-.044	-.807	,421

Source: Report Finance in exercise 2024

Based on Table 4 above, the regression equation obtained is $F\text{-SCORE} = 0.635 + 0.033 \text{ ROA} + 1.076 \text{ AChange} - 0.727 \text{ Receivable} - 0.840 \text{ IND} - 0.066 \text{ CiA}$ Value constant (α) as big as 0.635 Which show that variable independent Which consisting of financial targets, financial stability, nature of industry, ineffective monitoring, and Rationalization worth The same with (0) so fraud report finance will experience enhancement. Variable financial target obtain β as big as 0.033 so that if every 1 increase on variable financial target so mark fraud report finance will experience enhancement as big as 0.033. Variable financial stability obtain β is 1.076 so that if every 1 increase in the financial stability variable, then the value fraud report finance will experience increase as big as 1,076. Variable nature of industry obtain β as big as -0.727 so if every 1 decline on variable nature of industry, so mark fraud report finance will experience decline of -0.727. The ineffective monitoring variable obtains a β of -0.840 so that if every 1 decline on variable ineffective monitoring, so mark fraud report finances will experience a decrease of -0.840. The Rationalization variable gets β is -0.066 so that if every 1 decrease in the Rationalization variable, then the value fraud report finance will experience decline as big as -0.066.

Test Coefficient Determination (R²)

Test This used For measure how much Far ability model in explained variation variable dependent. Results testing coefficient determination seen on Table 5 following This:

Table 5. Results Coefficient Determination Model

Summary ^b					
Model	R	R Square	Adjusted Square	RStd. Error of Estimate	of the Durbin-Watson
1	,717 ^a	,514	,500	.3706157	1,977

Predictors: (Constant), CiA, AChange, IND, Receivable, ROA

Dependent Variables: FSCORE

Source: Report Finance in exercise 2024

Based on Table 5 on can concluded that mark coefficient determination R square explain that variable independent donate influence as big as 0.514 to variable dependent. Matter This describe that 51.4% variable fraud report finance Which explained by variable financial target (ROA), financial stability (AChange), nature of industry (Receivable), ineffective monitoring (IND), And Rationalization (CiA). Whereas 48.6% explained by variable Which other outside model study. R as big as 0.717 explain that connection between variable independent with variable dependent very strong.

Test Model Feasibility (Test F)

The F test is a test that aims to find out whether the variable is independent affects the dependent variable. The results of the model feasibility test are shown in Table 6 following This:

Table 6. Test Appropriateness Model (Test F)

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25,304	5	5,061	36,844	,000 a
	Residual	23,900	174	.137		
	Total	49.204	179			

a. Predictors: (Constant), CiA, AChange, IND, Receivable, ROA
b. Dependent Variables: FSCORE

ANOVA ^b						
Mode		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	25,304	5	5,061	36,844	,000 a
	Residual	23,900	174	.137		
	Total	49.204	179			

Source: Report Finance in exercise 2024

Based on Table 6 on, can is known that mark significance Which obtained as big as 0,000 Which It means not enough from 0.05. So that can concluded that model This research is feasible and the target financial variable (ROA), financial stability (ACchange), nature of industry (Receivable), ineffective monitoring (IND), and Rationalization (CiA) was able to explain fraud report finance.

Test Hypothesis (Test t)

Test hypothesis (test t) is test Which used for test influence each each variable free to variable bound. Test This can done with do comparison t count with t Table or with use level significant. Results testing test hypothesis seen on Table 7 below This:

Table 7. Results Test Hypothesis Coefficients ^a

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	,635	,095		6,671	,000
	ROA	.033	,201	,009	,164	,870
	AChange	1,076	,090	,646	11,992	,000
	Receivable	-.727	,174	-.224	-4,167	,000
	IND	-.840	,207	-.216	-4,059	,000
	CiA	-.066	,082	-.044	-.807	,421

Source: Report Finance in exercise 2024

Based on the calculation results in Table 7, the significance value of the ROA variable is obtained as big as $0.870 < 0.05$ so that ROA No influential to fraud report finance. Mark significance variable AChange as big as $0,000 < 0.05$ so that ROA

influential positive and significant to fraud report finance. Mark The significance of the Receivable variable is $0.000 < 0.05$ so that DER has a negative effect and significant impact on financial statement fraud. The significance value of the IND variable is $0.000 > 0.05$ so that IND has a negative and significant effect on fraudulent reporting finance. Mark significance variable CiA as big as $0.421 > 0.05$ so that CiA No influential to fraud report finance.

2. Discussion

The Influence of Financial Targets on Financial Statement Fraud

According to the research results above, the financial target or Return on Assets (ROA) which is the first hypothesis (H1) in this research is used to determine the evaluation results of the pressure variable. After testing the results obtained, namely the regression coefficient value is positive at 0.033 and the financial variable the target has no effect $0.870 > 0.05$, then the first hypothesis (H1) is rejected. Financial Target does not have the effect that the higher the company's ROA target, the less likely it is to commit financial statement fraud in line with the company's ability to generate profits from its assets. This potential is also an attraction for investors to invest their funds in the company because a high ROA increases the share price. This is in line with research conducted by [7] [8] [9] which concluded that the target financial variable has no effect on fraud in financial statements.

The Influence of Financial Stability on Financial Statement Fraud

According to the research results above, the second hypothesis in this research uses financial stability as the second variable (H2). The positive regression coefficient value is 1.076 and the sig.t level is $0.000 < 0.05$, which indicates that the financial stability variable has a positive and significant effect on financial statement fraud, in accordance with the results of hypothesis testing, so it can be concluded that (H2) is accepted. Financial stability is assumed to have an effect on the company's unstable financial condition causing management to take steps to manipulate financial figures to improve company performance and make the company appear stable. Positive results indicate that the higher the percentage change in total assets, the higher the fraudulent practices in financial reports. This research is in line with research conducted by [10] [11] [12] [8] [9] which states that financial stability influences against fraudulent financial statements.

The Influence of Nature of Industry on Financial Statement Fraud

According to the research results above, the results of testing the third variable, namely the Nature of Industry variable, research uses a comparison of probability values with a significant level. If the probability value (Sig.t) is smaller than the significance level of 0.05 then it can be concluded that the independent variable (Y) used has an effect on the dependent variable (X). The results of hypothesis testing on the Nature of industry variable show a negative value of -0.727, indicating that this variable has a negative and significant effect on financial statement fraud, indicating that the third hypothesis (H3) is accepted. Nature of Industry is said to have an influence, it is assumed that a significant decrease in the amount of receivables can be

an indication of fraudulent financial reporting in a company. If the company wants to attract investors, the subsidiary company manipulates the balance of receivables and their due dates to eliminate receivables with long due dates. However, with the direction showing negative because the higher the ideal state of the company in the industry, it has an impact on reducing fraud in its financial statements. This means that the company does not need to manipulate or eliminate its long-term receivables to attract investor interest because the company's condition is ideal and good. The results of this research are in line with research conducted by [13] [14] the nature of industry variable was found to have a negative impact on financial report fraud.

The Effect of Ineffective Monitoring on Financial Report Fraud

According to the research results above, the fourth variable in this research, Ineffective Monitoring, has a negative regression coefficient value of -0.840 with sig.t.000 < 0.05, this shows that the Ineffective Monitoring variable has a negative and significant effect on financial report fraud. So the fourth hypothesis (H4) is accepted. Ineffective Monitoring is influential because the ineffective monitoring variable is a situation where the company does not have an effective supervisory unit to monitor the company's performance. Therefore, it is necessary to have an independent board of commissioners to ensure that company supervision will run well. This negative result shows that the higher the effectiveness of company supervision, the lower the opportunity for management to commit financial statement fraud. The results of this research are in line with research conducted by [13] [14] ineffective monitoring variable was found to have a negative impact on fraudulent financial reports.

The Effect of Change in Auditor on Financial Report Fraud

The final variable, rationalization, was measured in this study using the change in auditor (CiA) measuring instrument, and the results of the negative regression coefficient test were -0.066 with a sig.t of 0.421 > 0.05, implying that the change in auditor variable did not have a significant effect on financial statement fraud. , thus the fifth hypothesis (H5) is rejected. The regression coefficient test produces a negative value of -0.066, which indicates that KAP tends not to change. Change in auditor has no effect because the analysis results show that the KAP tends not to change and also the amount of satisfaction with the auditor's performance or services, as well as their objectivity and independence from external auditors, can be a benchmark for organizations deciding whether to change auditors or not. The results of this research are in line with the findings of [12] [15], changes in auditor variables have no influence on financial statement fraud.

Conclusion

Based on the research results above, the following conclusions can be drawn: (1) Financial Targets have no effect on fraudulent financial statements. This shows that the higher the company's ROA target, the less likely it is to commit financial statement fraud in line with the company's ability to generate profits from its assets. This potential also becomes an attraction for investors to invest their funds in the company because a high ROA increases the share price. go on. (2) Financial Stability has a

positive and significant effect on fraudulent financial reports. This shows that the higher the percentage change in total assets, the higher the fraudulent practices in financial reports. (3) Nature of Industry has a negative and significant effect on financial statement fraud. This shows that the higher the ideal state of the company in the industry has an impact on reducing fraud in its financial reports. This means that the company does not need to manipulate or eliminate its long-term receivables to attract investor interest because the company's condition is ideal and good. (4) Ineffective Monitoring has a positive and significant effect on financial report fraud. This shows that the higher the effectiveness of company supervision, the greater the opportunity for management to commit financial report fraud. (5) Change in Auditor has no effect on fraudulent financial statements. This shows because the results of the analysis show that KAP tends not to change and also the amount of satisfaction with the auditor's performance or services, as well as their objectivity and independence from the external auditor, can be a benchmark for organizations deciding whether to change auditors or not.

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ROLE OF MSMEs IN STIRRING THE SOCIAL ECONOMY AT BENGALURU

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ABSTRACT

Micro, Small and Medium Enterprises (MSMEs) in Bengaluru is a critical contributor to the economic escalation and employment generation. This study aims to explore the issues regarding the performance and progress of MSMEs. The study is descriptive in nature, both primary and secondary data collected and appropriate statistical tools employed to draw the inherent facts about MSMEs performance. The study divulged that the MSME sector in Bengaluru faces challenges, such as access to finance, infrastructure constraints, and regulatory compliance. MSMEs rely on traditional banking channels for financing, while few look for NBFIs because of their flexible lending criteria. The future growth and prospects of MSMEs in the services industry are promising. By embracing innovation, collaboration, sustainability, talent development, market differentiation, customer-centricity, agility, resilience, continuous improvement, adoption of emerging technologies, focus on data analytics, expansion into niche markets, and adoption of flexible business models, MSMEs can unlock their full potential and grow. With the right support, resources, and strategies, MSMEs can take advantage of the growing demand for services and emerging opportunities in the digital economy.

Introduction

The Micro, Small and Medium Enterprises (MSME) sector is a major contributor to the socio economic development of Bengaluru. It is the Silicon Valley of India because of its prosperous IT industry. The MSME sector in Bengaluru includes a wide range of industries like electronics, food processing, textiles, service and engineering, Retailing etc. Regardless of being a momentous contributor to the economy, the MSME sector in Bengaluru exposed to numerous challenges. This study aims to explore the issues regarding the performance and progress of MSMEs. One of the vital issue is raising finance. MSMEs in Bengaluru struggle to get loans from banks and other financial institutions due to their diminutive size, lack of collateral, and credit record limitations. In addition to that the MSME sector in Bengaluru is having the issue that lack of skilled workers. The city has a huge demand for skilled workers; however the education system does not always supply with relevant training. Even with these

challenges, the MSME sector in Bengaluru has several sources of support. The Government of India has launched several initiatives to promote and support the MSME sector, such as the Prime Minister's Employment Generation Programme, which provides financial assistance to entrepreneurs to set up new enterprise. In the report submitted to the Reserve Bank of India, the Expert Committee on MSMEs has [1], mentioned the lack of adequate funding, high cost of technology, shortage of skilled manpower and lack of collaboration among R&D institutions, academic institutions and MSMEs as the main obstacle for innovation of MSME sector. Indian MSMEs in general have shortage of financial resources issues. This issue is mainly with the Micro organizations as most of these firms are very small in size. Micro(tiny) firms comprise 99.47% of the total MSMEs [2]. Benefits of Innovation- In the Silicon Valley CEOs meeting 2015, the Prime Minister Narendra Modi mentioned, 'I see technology as a means to empower and as a tool that narrows the distance between hope and opportunity' [3]. The study tries to find out the ways and means to overcome the issues faced and unlock the MSME's optimum potential and achieve sustained growth and success in the globalized scenario.

The Karnataka government has also launched various schemes to support the MSME sector in Bengaluru, such as the Karnataka MSME Policy, which aims to provide a conducive environment for the growth of MSMEs in the state. The Karnataka State Finance Corporation and the Small Industries Development Bank of India are few other sources of financial support for MSMEs in Bengaluru. In recent years, Bengaluru has emerged as a hub for entrepreneurship and innovation, attracting start-ups and MSMEs across the country. The city's vibrant ecosystem, characterized by a encouraging business environment, access to talent, and robust infrastructure, has propelled the growth of the MSME sector. In line with rapid growth, the MSME sector in Bengaluru faces multifaceted challenges that warrant attention and strategic intervention. Beyond access to finance and skilled labours, other challenges such as regulatory compliance, infrastructure bottlenecks, and market access constraints pose significant hurdles to the sector's sustainable development.

Research Methodology

Descriptive research method was used for this study. Bearing in mind the following objectives of the research

1. To study the current status and evaluate the overall growth and developments in the MSME sector at Bengaluru.
2. To identify the vital challenges faced by the MSME sector as well as to study future prospects of MSME.
3. To suggest the way outs to overcome the challenges faced by the MSME sector in Bengaluru.

The samples were selected across Bengaluru which includes food processing industry, engineering industry, garments manufacturing industry, automobile industry, chemical industry, handicrafts plants. Primary and secondary sources of data are collected for the study. Primary data were collected through a structural interview schedule by using questionnaires. The primary data were collected from sample of micro and small enterprises, engaged in proprietor, company, cooperative, engineering

industries. Secondary data collected from available literature and published sources like industry department of micro small and medium enterprises, books, journal, website, government records etc. The sample size of the research was 124. By using convenient sampling method 124 respondents from different enterprises across Bengaluru was taken into account. Factor analysis used for analysis and interpretation of data collected through the survey.

The main need of the study is to analyses the challenges faced by MSMEs (Micro, Small and Medium Enterprises) in Bengaluru is important for several reasons. First, MSMEs are the backbone of the Indian economy, and they play a crucial role in generating employment, promoting innovation, and supporting economic growth. Second, Bengaluru is one of the most important MSME hubs in India, and understanding the challenges faced by MSMEs in this Region can help policy makers and entrepreneurs develop targeted interventions and strategies to support the growth of these businesses.

Result and Discussion

MSMEs serve as crucial drivers of economic growth worldwide, offering significant employment and income opportunities. The Karnataka government has implemented supportive schemes, notably the Karnataka MSME Policy, to foster the growth of MSMEs in Bengaluru. Financial abet is available through entities like the Karnataka State Finance Corporation and the Small Industries Development Bank of India to bolster MSMEs in the city. These initiatives aim to create an enabling environment for MSMEs, enhancing their contribution to the state's economic development.

Factor Analysis

Factors chosen for analysis

For choosing effective production system to gain competitive advantage, certain factors are to be considered. They are

- | | |
|---------------------------------------------------|--------------------------------------------------|
| X ₁ – Estimation of financials | X ₂ – Assessing demand and supply |
| X ₃ – Quality control Mechanism | X ₄ – Optimizing Capacity utilization |
| X ₅ – Inventory management | X ₆ – Maintenance system |
| X ₇ – Reduction of errors and wastages | X ₈ – Working capital optimization |
| X ₉ – Monitoring and Controlling | |

Factor loading

Simple correlation between the variables and factors is studied with the help of factor matrix, containing the factor loading on the factors. In the present study, factor analysis has been applied to assess the major attributes to be considered before choosing effective production system. A correlation matrix has been constructed based on the ratings. The analytical process is based on the matrix of correlation between variables. Valuable insight can be gained from an examination of this matrix. To evaluate the appropriateness of factor analysis, the variables must be correlated. If the correlation between all the variables is small factor analysis may not be appropriate. In the inter correlation matrix the correlation of all the variables are in good fit and factor analysis may be appropriate.

Table 1. Component Matrix^a

Parameters	Component	
	1	2
Maintenance system	0.726	-0.107
Working capital optimization	0.723	-0.218
Optimizing Capacity utilization	0.708	-0.205
Monitoring and Controlling	0.685	-0.159
Reduction of errors and wastages	0.683	-0.265
Inventory management	0.670	-0.227
Quality control Mechanism	0.608	0.239
Assessing demand and supply	0.566	0.549
Estimation of financials	0.564	0.648

Source : Primary data

Extraction Method: Principal Component Analysis

a. 2 components extracted.

Component matrix

The above table is a correlation matrix on the ratings. The analytical process is based on a matrix correlation between the variables. If the correlations between all the variables are small, factor analysis may not be appropriate.

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.878
Bartlett's Test of Sphericity	Approx. Chi-Square	1.297E3
	Df	36
	Sig.	0.000

Source: Primary data

The above table shows the result of Bartlett's test of sphericity and Kaiser-Meyer-Olkin measure of sampling adequacy. Since the appropriate chi-square statistic is 1.297E3 which is significant at 1% level, the test leads to rejection of null hypothesis. The value of KMO statistic (0.878) is also high (greater than 1% level), Hence the factor analysis may be considered as an appropriate technique for analyzing.

Table 3. Communalities

Parameters	Initial	Extraction
Estimation of financials	1.000	0.738
Assessing demand and supply	1.000	0.621
Quality control Mechanism	1.000	0.427
Optimizing Capacity utilization	1.000	0.544

Inventory management	1.000	0.500
Maintenance system	1.000	0.538
Reduction of errors and wastages	1.000	0.536
Working capital optimization	1.000	0.570
Monitoring and Controlling	1.000	0.494

Source: Primary data.

Extraction Method: Principal Component Analysis

Table 4. Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	%of Total Variance	Cumulative %		%of Total Variance	Cumulative %		%of Total Variance	Cumulative %	
1	3.943	43.809	43.809	3.943	43.809	43.809	3.137	34.852	34.852
2	1.026	11.396	55.205	1.026	11.396	55.205	1.832	20.353	55.205
3	0.751	8.348	63.552						
4	0.707	7.859	71.412						
5	0.615	6.830	78.242						
6	0.582	6.463	84.705						
7	0.514	5.716	90.421						
8	0.470	5.226	95.647						
9	0.392	4.353	100.000						

Extraction Method: Principal Component Analysis.

It is observed that the labeled Eigen value for a factor indicates total variance attributed to the factor. Factor one account for 3.943 which is 43.809 percent of total variance. Likewise the second factor accounts for 1.026 which is 11.396 percent of total variance. The two factors show the variance of 1.026. The cumulative value 55.205 percent represents combination of these two factors.

Determination of factors based on Eigen values

In this approach only the factors having Eigen values greater than 1.0 are retained. The other factors are not included in this model. Since there are two components that posses Eigen values which are greater than 1.0, two components are said to be extracted from the total of nine factors.

Table 5. Rotated Component Matrix^a

Parameters	Component	
	1	2
Working capital optimization	0.730	0.195
Reduction of errors and wastages	0.720	0.134

Optimizing Capacity utilization	0.710	0.198
Inventory management	0.689	0.159
Maintenance system	0.673	0.291
Monitoring and Controlling	0.666	0.225
Estimation of financials	0.139	0.848
Assessing demand and supply	0.193	0.764
Quality control Mechanism	0.392	0.523

Source: Primary data

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

It is divulged that only two variables are influencing at high level for choosing effective production system to gain competitive advantage in Small Scale Industries. They are Estimation of financials and Assessing demand and supply which shows 55.205 level of variance [4]. Study also revealed universally accepted outdated technology and primitive manufacturing practices are the major challenges of Indian MSMEs. There is necessity for technological up gradation of the units and modernization of practices. Increasing the quality and upgrading the technology are indispensable for enhancing competitive advantage for the MSME sector.

Present growth, performance and contributions of MSMEs in Bengaluru

In view of Ministry of Micro, Small and Medium Enterprises, over 8 lakhs registered MSMEs in Bengaluru, employing more than 50 lakhs. The sector has been an essential source of employment and entrepreneurship opportunities for the city's residents, providing a significant boost to the local economy. One of the vital factor contributing to the growth of MSMEs in Bengaluru has been the city's reputation as a technology hub. With a thriving startup ecosystem, relatively vast pool of talented tech professionals, and access to the latest technologies, MSMEs in the city have been able to develop innovative products and services that have helped them compete in the global market.

The government of Karnataka has also played a crucial role in supporting the growth of MSMEs in the state, including Bengaluru. Through various initiatives, such as providing financial assistance, access to technology, and business incubation facilities, the government has been able to create an enabling environment for MSMEs to thrive. Government has also introduced policies to encourage MSMEs to adopt sustainable and eco-friendly practices. The micro, small and medium enterprises (MSME) sector in Bengaluru plays a crucial role in contributing to Employment Generation over 7 lakh, Nation's GDP contribution, export earnings of India, Innovation Hub with several startups and small businesses being set up here in Bengaluru, Women Empowerment -the city has several women entrepreneurs who have set up successful businesses. Technological Advancement to improve their productivity and efficiency, Diversified Products ranging from software development

to manufacturing and service. Competitive advantage due to availability of resources and infrastructure, vibrant entrepreneurial, eco system contributing to Sustainable development and that supports the growth of MSMEs, with several incubation centers, accelerators and funding options available.

Challenges faced by MSME sector in Bengaluru

Micro, Small and Medium Enterprises (MSMEs) are commonly facing with problems that are rare to the larger companies. In this research through factor analysis it is divulged that currently, Micro, Small, and Medium Enterprises (MSMEs) in Bengaluru face several challenges and problems like Access to finance: Skilled labor shortage, Infrastructure, Market access and Global Competition, Access to Information & Training, Access to Government Support and Regulatory challenges, [5] study also reveals Government policy-covers every aspect of innovation including availability of finance, technology, market supportive events, and building of Research and Development and educational institutions-remains one of the important aspect in MSME innovation. A significant challenge faced by MSMEs in Bengaluru is the slow adoption of technology. Many MSMEs still rely on traditional methods of production and do not have access to the latest technology and tools [1].

A significant challenge faced by MSMEs in Bengaluru is the slow adoption of technology. Many MSMEs still rely on traditional methods of production and do not have access to the latest technology and tools. Lack of innovation: MSMEs in Bengaluru struggle to innovate and bring new products and services to market. This is partly due to a lack of resources, limited access to research and development, and insufficient knowledge about the latest trends and market demands. Study also revealed from the study conducted in Indonesia on existing MSMEs for at least five years. It is found that there are 5 inhibiting factors of MSMEs' technological innovation: government support, quality of employees, finance for adopting technological innovation, economic environment and business partners. Conduct market research: Understanding the customers' needs and preferences, as well as competitors' offerings, can help the enterprise to adapt products and services to better meet demand and gain a competitive edge [6].

Lack of financial management has been confining the growth of any enterprise; and at the same time, the use of funds got impressed the use of all the other resources. Any type of entrepreneurial activity obsessed with production, marketing, personnel, and the like, ultimately turn around the availability of financial resources. Financial Management has been the significant factor which determines whether a business will be successful in the long run. Bengaluru is home to many Micro, Small and Medium Enterprises (MSMEs) which creates intense competition among them. Small businesses must compete with established and large enterprises, which can make it challenging for MSMEs to gain market share and grow. With globalization, MSMEs in Bengaluru are not only competing with local businesses but also facing competition from international companies. Adapting to global standards and competing on a global scale can be daunting for smaller enterprises.

Creating a website, social media profiles, and using digital marketing techniques such as search engine optimization (SEO) and pay-per-click advertising can

help you reach a wider audience and increase sales, [7] divulged around 5 to 6% MSMEs which have ensured their digital presence. These lacks of adoption to digitalization in business practices by the MSMEs has left them deprived of the prospective raise in income through enhanced operational effectiveness and widen customer coverage. Therefore, the need to put the SMEs on digitalization track has been recognized by the respective stakeholders and the process of digitalization has started shaping the MSME firms. Diversifying the enterprise offerings can help them to attract more customers and generate additional revenue streams, providing excellent customer service can help build loyalty and encourage repeat business. Embracing environmentally friendly practices can not only reduce the enterprise's ecological footprint but also appeal to environmentally conscious consumers and enhance brand reputation and developing strong leadership capabilities within the organization can provide direction, inspire confidence, and foster a culture of accountability and innovation.

Addressing these challenges requires a concerted effort from various stakeholders, including government agencies, industry associations, financial institutions, and educational institutions. By addressing these challenges effectively, the MSME sector in Bengaluru can unlock its full potential and contribute more effectively to economic growth and development.

Government initiatives to promote Bengaluru MSME sector

Considering the socio-economic development of Bengaluru, the government has provided several reforms to MSME sector. Provide financial assistance to MSMEs, including low-interest loans, subsidies, and tax incentives, to help them overcome the challenges of starting and scaling a business. Create a, suppliers, and investors. This portal could also provide information on government schemes, regulatory compliance, and other resources. Develop a training and skill development program for MSMEs, to help them enhance their technical and managerial capabilities and compete effectively in the market. Organize regular exhibitions, trade fairs, and networking events, comprehensive online portal to connect MSMEs with buyers and suppliers, and learn about the latest industry trends and technologies. Establish a dedicated start-up incubation center to provide mentorship, training, and funding assistance to early-stage MSMEs [8].

Encourage collaboration and innovation among MSMEs by launching a start-up accelerator program, where small businesses can collaborate with researchers, industry experts, and investors to develop new products [9]. Streamline regulatory processes and reduce the bureaucratic burden on MSMEs, by establishing a one-stop-shop for all government clearances and approvals. Partner with private sector players, such as venture capital firms, industry associations for R&D, and large corporate, to provide funding, mentoring, and market access to MSMEs in Bengaluru [1]. The Government of India has launched various schemes to extend the financial support to the MSME sector such as the Prime Minister's Employment Generation Programmed (PMEGP), Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE), and etc. Government is extending the supporting hand to the MSMEs in creating awareness and upgrading of technology from side to side workshops, trade fair,

seminars and subsidies to procuring the technology also [10]. Addressing the Silicon Valley CEOs in 2015, the prime minister Narendra Modi had said 'I see technology as a means to empower and as a tool that bridges the distance between hope and opportunity' [3].

Conclusion

To conclude, With the favorable ecosystem for startups and entrepreneurship, Bengaluru has emerged as one of the top destinations for MSMEs in India. The city's well-established IT infrastructure, availability of skilled workforce, and supportive government policies has further strengthened its position as a hub for MSMEs. The government has also announced several measures to support the sector, including financial assistance, skill development programs, and technology up gradation initiatives. MSME sector with the right support and policies, it has the potential to further contribute to the city's economic growth and development. However, there are some areas where the MSME sector in Bengaluru faces challenges, such as access to finance, infrastructure constraints, and regulatory compliance. To overcome these challenges, it is important for MSMEs in Bengaluru to adopt innovative and technology-driven approaches and collaborate with other players in the ecosystem.

Innovation espousal, collaboration, sustainability, talent development, market differentiation, agility, resilience, continuous improvement, adoption of emerging technologies, focus on data analytics, expansion into niche markets, and adoption of flexible business models, MSMEs can unlock their full potential and achieve sustained growth and success in the dynamic and competitive services landscape. With the right support, resources, and strategies, MSMEs can take advantage of the growing demand for services and emerging opportunities in the digital economy to achieve sustained growth and success

Avenues for further research prospects of MSMEs in the services sector looks very positive, online platforms and its impact on MSMEs performance, Government aids, globalization impact towards the MSMEs performance, and shift in consumer taste and preferences.

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