# Effects Of Accounting And Marketing Digitalization On The Financial Performance Of Digital Banks In Indonesia

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**Resume—This study investigates the effects of accounting and marketing digitalization on the financial performance of digital banks in Indonesia, focusing on the adoption of eXtensible Business Reporting Language (XBRL) and Customer Relationship Management (CRM). Using multiple linear regression analysis on secondary data from 32 Indonesian digital banks, the research finds that neither XBRL nor CRM individually has a significant effect on Return on Assets (ROA). However, when examined simultaneously, XBRL and CRM jointly contribute significantly, explaining 61.5% of the variance in ROA. These results highlight the strategic importance of integrating accounting and marketing digitalization to enhance financial performance, while also acknowledging limitations related to data scope and the single financial indicator used.**

**Keywords: digital banking, CRM, financial performance, ROA, XBRL**

**Abstract–This study examines the influence of accounting and marketing digitalization on the financial performance of digital banks in Indonesia, a sector that has grown rapidly in response to technological advancements. Although technologies such as eXtensible Business Reporting Language (XBRL) and Customer Relationship Management (CRM) have been widely adopted, their individual impacts on financial performance remain unclear. This research aims to determine the effects of XBRL and CRM, both individually and simultaneously, on Return on Assets (ROA) as a measure of financial performance. Using a quantitative approach, the study employs multiple linear regression analysis based on secondary data collected from the annual reports of 32 digital banks registered in Indonesia. The findings show that XBRL does not significantly affect ROA, as indicated by low correlation and regression coefficients with significance values above 0.05. Moreover, CRM does not have a significant impact when assessed partially, although strong correlations with ROA are observed. However, when analyzed together, XBRL and CRM show a significant simultaneous effect on ROA, explaining 61.5% of the variance. This suggests that while these technologies may not be impactful on their own, their integration can substantially enhance financial performance. Limitations of this study include reliance on secondary data and a narrow focus on ROA, which may not fully capture all dimensions of performance. The findings offer valuable insights for digital banking stakeholders aiming to enhance financial outcomes through comprehensive digital strategies.**

**Keywords: digital banking, CRM, financial performance, ROA, XBRL**

## I. INTRODUCTION

Digitalization has become a key factor in the transformation of the banking industry worldwide. Digital banking in Indonesia continues to grow rapidly, driven by technological advances and changes in consumer behaviour. One important aspect of digitalization in banking is the application of technology in accounting and marketing. Accounting digitalization through eXtensible Business Reporting Language (XBRL) offers efficiency and accuracy in financial reporting, while marketing digitalization through

Customer Relationship Management (CRM) improves banks' ability to manage customer relationships. Although the potential benefits of digitalization are great, its influence on the financial performance of digital banks in Indonesia has not been studied thoroughly.

In this study, the theory used is information systems theory, explaining how information systems can improve the efficiency and effectiveness of organizational operations. According to DeLone and McLean (2003) the success of information systems can be measured by six dimensions, namely system quality, information quality, user satisfaction, system usage, individual impact and organizational impact. In the context of accounting and marketing digitalization, information system theory can be utilized to explain how XBRL and CRM can improve information quality, user satisfaction and organizational impact.

The development of digital technology has brought significant changes in various sectors, including banking. Digital banks in Indonesia face both challenges and opportunities in applying technology to improve their financial performance. However, the particular effects of accounting digitalization through the application of eXtensible Business Reporting Language (XBRL) and marketing digitalization through Customer Relationship Management (CRM) on the financial performance of digital banks have not been widely studied. Therefore, this study aims to answer the main questions: How does the implementation of XBRL affect the financial performance of digital banks in Indonesia? How does the implementation of CRM affect the financial performance of digital banks in Indonesia? And Is there a significant correlation between accounting digitalization and marketing digitalization on the financial performance of digital banks in Indonesia?

Previous research has examined the effect of digitalization in various aspects of business. Nonetheless, there are still few that specifically examine the effects of accounting and marketing digitalization on the financial performance of digital banks, which is a relatively new and rapidly growing sector in Indonesia. This study also contributes to the literature on the application of digital technology in the banking sector by using methods that are more specific and relevant to the Indonesian context.

## II.        RESEARCH METHOD

This study uses a quantitative approach with multiple linear regression analysis method to examine the effect of accounting and marketing digitalization on the financial performance of digital banks in Indonesia. This approach was selected to identify statistical relationships between variables under study and ensure the validity of the research results. The object of this research is accounting digitalization as measured by eXtensible Business Reporting Language (XBRL) and marketing digitalization through Customer Relationship Management (CRM) as independent variables, as well as financial performance as the dependant variable proxied by Return on Assets (ROA). The subjects in this study are digital banks listed in Indonesia. The research procedure begins with the collection of secondary data from the annual statement of digital banks listed in Indonesia. The data collected includes information on the application of XBRL for accounting digitalization, the application of CRM for marketing digitalization, as well as financial performance data measured using Return on Assets (ROA).

The first step in the research procedure is the development of a clear theoretical framework and hypotheses based on relevant literature. This is followed by the development of measurement instruments to ensure the validity and reliability of the data to be collected. Once the instrument is ready, data collection is done by accessing annual statement, published by digital banks in Indonesia. The data is then processed and analyzed using statistical software to examine the research hypotheses.

## III.        RESULTS AND DISCUSSION

### A.    The Effect of XBRL ($X_1$) on Financial Performance

This research is based on the first hypothesis stating that XBRL has a significant influence on financial performance. The research results indicate that the hypothesis cannot be accepted as shown in the following table.

Table 1

Table Correlation between XBRL and Financial Performance

**Correlations**

|  |  | ROA | XBRL |
|---|---|---|---|
| ROA | Pearson Correlation | 1 | .148 |
|  | Sig. (1-tailed) |  | .209 |
|  | N | 32 | 32 |
| XBRL | Pearson Correlation | .148 | 1 |
|  | Sig. (1-tailed) | .209 |  |
|  | N | 32 | 32 |

Source: Author's Data Processing Results, 2025

Based on table 1, it is known that the relationship between the XBRL variable and financial performance is calculated with a correlation coefficient of 0.148. This indicates that the relationship is not significant. The positive direction of the relationship shows that when the condition of the XBRL improves, the financial performance increases. Conversely, when XBRL gets weaker, the financial performance gets lower. The significance level of the one-sided correlation coefficient from the output (measured by probability value) produces a figure of 0.209. Since the probability value is above 0.05, the correlation between XBRL and financial performance is not significant.

Table 2

Partial Test Results of XBRL on Financial Performance

**Coefficients[a]**

| Model |  | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
|  |  | B | Std. Error | Beta |  |  |
| 1 | (Constant) | 1.287 | .065 |  | 19.921 | .000 |
|  | XBRL | .075 | .091 | .148 | .821 | .418 |

a. Dependent Variable: ROA
Source: Author's Data Processing Results, 2025

Table 2 presents the partial linear regression results between XBRL and ROA. The regression coefficient value of 0.075 indicates a positive relationship direction. However, the significance of 0.418 and t-count of 0.821 (smaller than t-table of 2.04523) signifies that the effect of XBRL on ROA is not significant. Hence, accounting digitalization through XBRL is not strong enough to explain variations in financial performance of digital banks individually.

Table 3

Simultaneous Test Results between XBRL and Financial Performance

**ANOVA[a]**

| Model |  | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .045 | 1 | .045 | .673 | .418[b] |
|  | Residual | 2.005 | 30 | .067 |  |  |
|  | Total | 2.050 | 31 |  |  |  |

a. Dependent Variable: ROA

b. Predictors: (Constant), XBRL

Source: Author's Data Processing Results, 2025

Through the ANOVA analysis in table 3, the F-count is 0.673 with a significance of 0.418. This implies that simultaneously, XBRL has no significant effect on ROA. In other words, the application of XBRL as a digital accounting system is not sufficient to predict the financial performance without the involvement of other variables.

Table 4

Determination Test Results of The Influence of XBRL on Financial performance

**Model Summary$^b$**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .148$^a$ | .022 | -.011 | .25852 |

a. Predictors: (Constant), XBRL

b. Dependent Variable: ROA

Source: Author's Data Processing Results, 2025

In table 4, the coefficient of determination (R square) of 0.022 indicates that only 2.2% of the variation in ROA can be explained by XBRL, while the remaining of 97.8% is influenced by other variables. This confirms that the contribution of XBRL to financial performance is statistically very small.

### B.    The Effect of CRM on Financial Performance

Based on the second hypothesis, it is said that CRM has a significant influence on the financial performance. The results of this study demonstrate that this hypothesis cannot be accepted as shown in the following table.

Table 5

Correlation Table between CRM and Financial Performance

**Correlations**

| | | ROA | CRM_Kepuasan | CRM_Retention |
|---|---|---|---|---|
| ROA | Pearson Correlation | 1 | .761$^{**}$ | .784$^{**}$ |
| | Sig. (1-tailed) | | .000 | .000 |
| | N | 32 | 32 | 32 |
| CRM_Kepuasan | Pearson Correlation | .761$^{**}$ | 1 | .970$^{**}$ |
| | Sig. (1-tailed) | .000 | | .000 |
| | N | 32 | 32 | 32 |
| CRM_Retention | Pearson Correlation | .784$^{**}$ | .970$^{**}$ | 1 |
| | Sig. (1-tailed) | .000 | .000 | |
| | N | 32 | 32 | 32 |

$^{**}$. Correlation is significant at the 0.01 level (1-tailed).

Source: Author's Data Processing Results, 2025

As seen in table 5, the correlation values of the effect of CRM satisfaction and CRM retention variables on financial performance are 0.761 and 0.784 respectively. This shows that the relationship is very significant. The positive direction of the relationship

indicates that when the condition of CRM variable improves, the financial performance increases. On the other hand, when the CRM gets weaker, the financial performance also gets lower. The significance level of the one-sided correlation coefficient of the output (measured by probability value) results in a figure of 0.000. Since the probability value is below 0.05, the correlation between CRM and financial performance is highly significant. It also indicates the importance of customer relationship management in supporting bank performance.

Table 6

Partial Test Results between CRM and Financial Performance

**Coefficients[a]**

| Model | | B | Std. Error | Beta | t | Sig. |
|---|---|---|---|---|---|---|
| | | Unstandardized Coefficients | | Standardized Coefficients | | |
| 1 | (Constant) | -4.269 | 1.077 | | -3.964 | .000 |
| | CRM_Kepuasan | .001 | .033 | .014 | .030 | .976 |
| | CRM_Retention | .063 | .039 | .770 | 1.621 | .116 |

a. Dependent Variable: ROA
Source: Author's Data Processing Results, 2025

In table 6 it is shown that although the correlation is strong, the partial regression results indicate satisfaction CRM (sig. 0.976) and retention CRM (sig. 0.116) have no significant effect individually on ROA. The t-count values of both variables are also smaller than the t-table. This ascertains that each CRM indicator is not strong enough to influence ROA separately, although the general relationship appears significant.

Table 7

Simultaneous Test Results between CRM and Financial Performance

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 1.259 | 2 | .629 | 23.069 | .000[b] |
| | Residual | .791 | 29 | .027 | | |
| | Total | 2.050 | 31 | | | |

a. Dependent Variable: ROA
b. Predictors: (Constant), CRM_Retention, CRM_Kepuasan
Source: Author's Data Processing Results, 2025

Table 7 shows that ANOVA produces an F-count of 23.069 with a significance of 0.000. This means that CRM simultaneously has a significant effect on ROA, indicating that when CRM is viewed as a whole (satisfaction and retention), the variable has a strong influence on the financial performance of digital banks. In addition, it confirms the importance of a holistic approach in digital marketing strategy.

Table 8

Determination Test Results between CRM and Financial Performance

**Model Summary**[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .784[a] | .614 | .587 | .16518 |

a. Predictors: (Constant), CRM_Retention, CRM_Kepuasan

b. Dependent Variable: ROA
Source: Author's Data processing Results, 2025

In table 8, the R square value 0f 0.614 indicates that 61.4% of the variation in ROA can be explained by CRM. This number is considered large and verifies that CRM strategies play an important role in driving the financial performance of digital banks, provided they are implemented in an integrated manner.

*C.    The Effect of XBRL and CRM on Financial Performance*

The third hypothesis, namely XBRL and CRM have a significant influence on financial performance, is accepted. This is proved by the results of the research as can be seen in the following table.

Table 9

Correlation Table of the influence of XBRL and CRM on Financial Performance

**Correlations**

| | | ROA | XBRL | CRM_Kepuasan | CRM_Retention |
|---|---|---|---|---|---|
| ROA | Pearson Correlation | 1 | .148 | .761** | .784** |
| | Sig. (1-tailed) | | .209 | .000 | .000 |
| | N | 32 | 32 | 32 | 32 |
| XBRL | Pearson Correlation | .148 | 1 | .287 | .232 |
| | Sig. (1-tailed) | .209 | | .056 | .100 |
| | N | 32 | 32 | 32 | 32 |
| CRM_Kepuasan | Pearson Correlation | .761** | .287 | 1 | .970** |
| | Sig. (1-tailed) | .000 | .056 | | .000 |
| | N | 32 | 32 | 32 | 32 |
| CRM_Retention | Pearson Correlation | .784** | .232 | .970** | 1 |
| | Sig. (1-tailed) | .000 | .100 | .000 | |
| | N | 32 | 32 | 32 | 32 |

**. Correlation is significant at the 0.01 level (1-tailed).
Source: Author's Data Processing Results, 2025

Based on table 9, it can be seen that the influence of XBRL, CRM satisfaction and CRM retention on financial performance is calculated with a correlation coefficient of 0.148, 0.761, and 0.784. This proves that the relationship is significant. The positive direction of the relationship shows the condition of the variables. When the influence of XBRL and CRM improves, the financial performance increases. On the other hand, when XBRL and CRM get weaker, the financial performance gets lower.

The significance level of one-sided correlation coefficient of the output (measured from the probability value) results in a figure of 0.209 for XBRL and 0.000 for CRM. Since the probability value of XBRL is above 0.05, the correlation between XBRL and financial performance is not significant. However, as the probability value of CRM is below 0.05, the correlation between CRM and financial performance is very significant. The correlation between XBRL and CRM is also moderate, showing the potential complementary between accounting and marketing digitalization in supporting financial performance when implemented together.

Table 10

Simultaneous Test Results of The Influence of XBRL and CRM on Financial Performance

**ANOVA$^a$**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 1.262 | 3 | .421 | 14.935 | .000$^b$ |
| | Residual | .788 | 28 | .028 | | |
| | Total | 2.050 | 31 | | | |

a. Dependent Variable: ROA

b. Predictors: (Constant), CRM_Retention, XBRL, CRM_Kepuasan
Source; Author's Data processing Results, 2025

Based on table 10, the ANOVA test shows that XBRL and CRM simultaneously have a significant effect on ROA with an F-count of 14.935 and a significance of 0.000. This means that the integration of digital financial reporting systems and customer relationship management is an effective strategy in improving the financial performance of digital banks.

Table 11

Determination Test Results of The Effect of XBRL and CRM on Financial Performance

**Model Summary$^b$**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .784$^a$ | .615 | .574 | .16780 |

a. Predictors: (Constant), CRM_Retention, XBRL, CRM_Kepuasan

b. Dependent Variable: ROA
Source: Author's Data Processing Results, 2025

Table 11 explains the magnitude of the correlation or relationship value (R) which is 0.784. From this output, the coefficient of determination (R square) of 0.615 is obtained, implying that the effect of the independent variables, namely XBRL and CRM, on the dependant variable ROA is 61.5% and the remaining 38.5% is influenced by other factors.

## IV. CONCLUSION

Based on the results of the regression analysis conducted, it can be concluded that accounting digitalization as measured by the application of eXtensible Business Reporting Language (XBRL) has no significant effect on the financial performance of digital banks in Indonesia as proxied by Return on Assets (ROA). This result is indicated by a significance value of 0.754 which is greater than the significant limit of 0.05. as well as a t-count value of -0.317 which is smaller than the t-table of 2.04523. This indicates that an increase in XBRL implementation does not necessarily have a direct impact on improving the financial performance of digital banks.
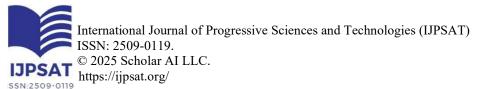
Digitalization of marketing as measured by the Consumer Relationship Management (CRM) variable, both in terms of customer satisfaction and retention, does not have a significant partial effect on financial performance. This is reflected in the significance values of CRM satisfaction and CRM retention of 0.913 and 0.144 respectively, as well as the t-count value which is lower than the t-table. Nevertheless, the correlation results show a strong positive relationship between CRM and ROA. Thus, CRM has the potential to contribute to financial performance when integrated effectively.

On the other hand, when XBRL and CRM are tested simultaneously, both show a significant influence on the financial performance of digital banks. This is confirmed by the F-count value of 14.935with a significance of 0.000 which is smaller than 0.05, as well as the coefficient of determination ($R^2$) of 0.615. This means that both accounting and marketing digitalization are able to explain 61.5% of the variation in digital bank financial performance.

It can be concluded that although individually XBRL and CRM have not shown a significant effect on ROA, the application of both can increase operational effectiveness and efficiency which has an impact on improving the financial performance of digital banks in Indonesia.

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