



# Analysis of the Benefits of Wokee Application Information Technology Investment

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Article Info	Abstract
<b>Article History</b> Received: 2023-03-12 Revised: 2023-04-10 Published: 2023-05-01	Information Technology investment is an indispensable thing for companies. Information technology in the company can support progress in decision making and provide a competitive advantage for companies to compete with competitors, both those who come in the same industry or are different from competing with competitors globally. The banking sector is one of the sectors affected by the development of information and communication technology. The purpose of this study was to determine the effect of Wokee application technology investment in PT. Bank KB Bukopin TBK. The identification of the investment benefits is carried out using a qualitative descriptive approach, cost benefit analysis (CBA) analysis method, and Ranti's Generic IS/IT Business Value method.
<b>Keywords:</b> <i>Technology Investment;</i> <i>Cost Benefit Analysis;</i> <i>Ranti's Method.</i>	

Artikel Info	Abstrak
<b>Sejarah Artikel</b> Diterima: 2023-03-12 Direvisi: 2023-04-10 Dipublikasi: 2023-05-01	Investasi Teknologi Informasi menjadi suatu yang sangat diperlukan bagi perusahaan. Kemajuan teknologi informasi di perusahaan dapat menunjang perusahaan dalam pengambilan keputusan usaha dan memberi tambahan kelebihan kompetitif bagi perusahaan untuk bisa bersaing dengan para kompetitor, baik yang datang dalam industri yang sejenis maupun yang berbeda apalagi bersaing dengan kompetitor secara global. Sektor perbankan merupakan salah satu sektor yang terkena dampak pengaruh perkembangan teknologi informasi dan komunikasi. Tujuan penelitian ini adalah untuk mengetahui manfaat investasi teknologi aplikasi Wokee pada perusahaan PT. Bank KB Bukopin TBK. Identifikasi manfaat investasi tersebut dilakukan dengan menggunakan pendekatan deskriptif kualitatif, metode analisis cost benefit analysis (CBA) dan metode Ranti's Generic IS/IT Business Value. Hasil dari penelitian ini terhadap dampak investasi teknologi yang dilakukan oleh Bank Bukopin terhadap perusahaannya sendiri, serta hasil dari perhitungan terhadap manfaat, dan biaya investasi dalam bidang finansial berpengaruh positif sehingga investasi ini dapat diterima.
<b>Kata kunci:</b> <i>Investasi Teknologi;</i> <i>Cost Benefit Analysis;</i> <i>Ranti's Method.</i>	

## I. INTRODUCTION

Information Technology Investment is something that is very necessary for companies. Advances in information technology in companies can support companies in making business decisions and provide additional competitive advantages for companies to be able to compete with competitors, both those who come in similar and different industries, let alone compete with competitors globally. Investing in information technology in a company is not an easy thing. Apart from requiring large funds, investment in information technology must also see the preparation of the company which includes the existing resources in the company. Companies must take into account the benefits and risks that will be obtained by the company when investing in information technology is made. The existence of Information Technology support is needed in terms of assisting the development of Information Technology investments where to consider

this investment is not easy, because in investing in Information Technology there are risks that may be faced by companies. Some of the risks that usually arise when using information technology are virus attacks that can disrupt the performance of information technology, errors and damage to support systems such as broken power lines, and so on.

Therefore to prepare for possible risks Some of the risks that usually arise when using information technology are virus attacks that can disrupt the performance of information technology, errors and damage to support systems such as broken power lines, and so on. Therefore to prepare for possible risks Some of the risks that usually arise when using information technology are virus attacks that can disrupt the performance of information technology, errors and damage to support systems such as broken power lines, and so on. Therefore to prepare for possible risks that will occur in this investment

also needs to have an evaluation stage. The banking sector is one of the sectors affected by the influence of the development of information and communication technology. As quoted from Detik Finance, "The Banking Workers Union Communication Network (Jarkom SP Banking) stated that 50,000 bank employees had been laid off or terminated as a result of being replaced by machines. In recent years, the number of employees in the banking sector has decreased due to digital transformation. Based on the quote, Bank Bukopin is one of the banks that has experienced a reduction due to this digital transformation. As quoted from Kata Data, "As many as 1,400 employees of PT Bank KB Bukopin TKB or commonly known as Bank Bukopin have resigned in unison until the end of December 2021.

Bank Bukopin is one of the banks that has been running its operations in Indonesia for a long time, it has been recorded since 1970 that Bank Bukopin has provided banking services to the Indonesian people and focused on the MSME sector. Now Bank Bukopin has also provided significant services in the Commercial and Consumer segments so that more and more banking products and services are offered, including: deposit products, micro banking, international banking, card business, e-banking, cash management and custody services, to Host services. to Host and Virtual Accounts. Quoted from ivooxid, "To develop its digital products, Bank Bukopin has prepared a technology investment fund of at least IDR 60 billion to IDR 100 billion".

To strengthen digital services, Bank Bukopin continues to issue technological innovations to maximize banking services. In addition to services, digital implementation as a whole will make business processes run more efficiently. In 2017 bank Bukopin has invested in technology. Bank Bukopin has launched an application called Wokee. The Wokee application is a digital product that can make it easier for customers to make transactions. As quoted from CNBC Indonesia, "technological innovation in the form of digital-based financial services such as Wokee is an important breakthrough for Bank Bukopin to face the increasingly fierce competition in the financial industry". With the development of this digital product, it will help streamline banking operational costs in the future.

## **II. METHOD**

The research method used in this study is the Ranti's Generic IS/IT Business Value method, and

the Cost Benefit Analysis (CBA) method. The author uses the Ranti's Generic Business Value method because this method takes into account financial and non-financial approaches without the need to distinguish between tangible and intangible benefits which often become an obstacle in quantifying the benefits of IT investment. According to the results of research conducted by Ranti Ranti, 2006 by taking case studies in Indonesia, there are 13 categories and 73 sub-categories of SITI business benefits. When compared to several other developing countries, there are 3 IS/IT business benefits that are unique to Indonesia.

Then proceed with the calculation of the Cost Benefit Analysis (CBA), which is one of the methods that will be used to measure IT investment in the transaction system at Bank KB Bukopin). This method is used to determine or calculate the transaction value of each element of information technology that contributes to costs when making transactions. The calculation used is to calculate ROI, NPV, PP and BCR. From the results of this analysis, it can give consideration to the benefits generated from the investment using the Wokee application at Bank KB Bukopin.

## **III. RESULT AND DISCUSSION**

### **A. Result**

Based on the results of identifying investment benefits using the Ranti's Generic IS/IT Business Value table, Cost Benefit Analysis it can be concluded that the benefits of information technology investment at PT Bank Kb Bukopin Tbk based on the Ranti's Generic IS/IT Business Value table are speeding up the process (APR), reducing risk (RRI), Increase revenue (IRE), improve external services (IES), improve image (IIM), improve quality (IQU). Meanwhile, based on the calculation of the Cost Benefit Analysis, it obtained an ROI of 0.127%, an NVP of Rp. 1,615,019, a Payback Period of 0.52 or 188 days, and a Benefit Cost Ratio of 2.4 which indicates that the investment has a fairly good profitability with a relatively short collection time. less than one year.

### **B. Discussion**

Ranti's Generic IS/IT Business Value is a framework for identifying the benefits of investing in information technology without the need to distinguish between tangible and intangible benefits which often become obstacles and qualifies the benefits of information technology. The benefits of investing in

information technology at PT Bank KB Bukopin based on the Ranti's Method can be seen in this table:

**Table 1. Ranti's Generic IS/IT Business Value**

Code	meaning (general)	SI unit
APR-07	Speed up the process of transaction processing	With the Pay by QR feature in the Wokee application, it can make it easier for customers to make transactions by providing payments anywhere
RRI-01	Reduce the risk of calculation errors	With the woke savings application owned by customers, the calculations are not done manually and are in accordance with calculations from the system
RRI-09	Reducing the risk of counterfeiting	Utilizing the National Identity Number (NIK) will improve the customer identity verification process and prevent identity abuse and fake identities.
IRE-03	Increasing revenue is caused by increasing customer trust	With the woke application, customers can open an anti-complicated savings account without there is an initial deposit, a minimum balance, accompanied by attractive interest, and no monthly fees. To withdraw cash can be done without using an ATM card.
IES-05	Improving external services from customer satisfaction	With complete features and providing a variety of digital banking services, the woke application will be able to accelerate business growth because the transaction process runs fast and well and increases customer satisfaction
IIM-01	Improving the image caused by improving the quality of service	The addition of new features will help customers provide better service.
IQU-03	Improve the quality of service	With the development of features in the wokee application, the quality and speed of service will increase

Cost Benefit Analysis (CBA) is an "approach that tries to determine or calculate the value of each element of information technology that has a contribution to the costs incurred and the benefits obtained". Here are several ways to calculate Cost Benefit Analysis, namely as follows:

1. Return On Investment (ROI)

Return On Investment is the ratio used to measure the percentage of benefits generated by an investment compared to the total costs incurred. The following is the calculation of Return on Investment at Bank KB Bukopin:

**Table 2. Return on Investment Value**

Initial Investment (In Million Rupiah)	
Net Profit After Taxes	135,901
Total Assets	106,442,999

$$ROI = \frac{\text{Net Profit After Taxes}}{\text{Total Asset}} \times 100\%$$

$$ROI = \frac{135.901}{106.442.999} \times 100\%$$

$$= 0.0012767491$$

$$= 0.127\%$$

Based on the calculation above, the Return on Investment of Bank KB Bukopin is 0.127%, it can be concluded that the investment is still acceptable because it only provides benefits of 0.127% of the total investment cost. With an ROI value of 0.12%, it can be interpreted that the information technology investment made has enough profit.

2. Net Present Value (NPV)

Net Present Value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows over a period of time. NPV is usually used for capital allocation to analyze profits in a project to be implemented.

**Table 3. Net Present Value**

Year	Cash flow	Discount Rates
0	1,360,280	
1	2,629,124	
2	(442,094)	10.79%
3	1,308,758	

$$\begin{aligned}
 NPV &= \frac{C_1}{(1+r)^1} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} - C_0 \\
 &= \frac{2.629.124}{(1+0,1079)^1} + \frac{-442.094}{(1+0,1079)^2} + \\
 &\quad \frac{1.308.758}{(1+0,1079)^3} - 1,360,280 \\
 &= 2,373,069 + (-360,174) + \\
 &\quad 962,404 - 1,360,280 \\
 &= 1,615,019
 \end{aligned}$$

Net Present Value (NVP) at PT Bank KB Bukopin TBK of IDR 1,615,019. From these results it can be seen that the NPV value is > 0 which indicates that the investment being made is projected to generate profits for Bank Bukopin.

### 3. Payback Period (PP)

Payback Period is the taking of investment capital within a certain period of time in the period or number of years needed to return the original investment value. In this method, investment valuation is based on how long the investment value can be covered by incoming cash flow. The investment cost is 1,360,280 covered with the first year's cash flow of 2,629,124. Therefore the calculation is as follows:

$$\text{Payback Period} = \frac{\text{Investasi awal}}{\text{Arus Kas}} \times 1 \text{ year}$$

$$\text{Payback Period} = \frac{1.360.280}{2.629.124} \times 1 \text{ year}$$

$$\text{Payback Period} = 0.52 \text{ (188 days)}$$

Based on the Payback Period (PP) calculation, it can be concluded that the investment in PT Bank KB Bukopin TBK is considered feasible because it obtains an investment payback period of 0.52 or less than one year.

### 4. Benefit Cost Ratio (BCR)

Benefit Cost Ratio (BCR) is a comparison between revenue (Benefit) and total cost (Cost). This method is used to determine the feasibility of whether a project or investment is profitable or not. The following is the calculation of the Benefit Cost Ratio (BCR):

**Table 4. Benefit Cost Ratio**

Tahun	Pendapatan	Biaya	DF	PV Manfaat	PV Biaya
2017	3.000.721	2.905.605	0.9026	3.320.796	2.636.827
2018	8.764.422	2.750.809	0.8147	7.140.374	2.248.416
2019	8.548.738	2.801.776	0.7353	6.285.887	2.060.145
2020	6.338.115	2.758.323	0.6637	4.207.270	1.830.698
Total				21.154.321	8.816.086

$$BCR = \frac{21.154.321}{8.816.086} = 2.4 > 1 \text{ (decent)}$$

The above results were obtained at 2.4 which means that the BCR is greater than the discount factor. Therefore it can be concluded that Bank Bukopin's investment is acceptable.

## IV. CONCLUSION AND SUGGESTION

### A. Conclusion

Based on the results of identifying the benefits of investment using the table Rantis's Generic IS/IT Business Value and Cost Benefit Analysis it is concluded as follows

1. The benefits of investing in information technology at PT Bank Kb Bukopin Tbk based on the Ranti's Generic IS/IT Business Value table are speeding up the process (APR), reducing risk (RRI), increasing revenue (IRE), improving external services (IES), improving image (IIM), improve quality (IQU).
2. Based on the calculation of the Cost Benefit Analysis, it obtained an ROI of 0.127%, an NVP of Rp. 1,615,019, a Payback Period of 0.52 or 188 days, and a Benefit Cost Ratio of 2.4 which indicates that the investment has a fairly good profitability with less time to take from one year. With the results obtained from this CBA calculation, suggestions contain various suggestions or opinions that should be linked to similar research. Suggestions are made based on weaknesses, experiences, difficulties, mistakes, new findings that have not been studied and various possible directions for further research.

### B. Suggestio

Suggestions that the author can give through this research are:

1. Exploring the benefits of information technology investment, especially in the financial aspect, should be carried out more deeply so as to produce information in the form of nominal figures
2. Further research can be carried out using primary data, not only secondary.

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