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ANALYSIS OF KARTINIPEDIA APPLICATION INVESTMENT OPPORTUNITIES USING NET PRESENT VALUE

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Abstract: The internet connects people all over the world, taking advantage of this business opportunity, one of which is information-based e-commerce. The concept of shopping is now developing as a lifestyle and a fun activity, especially for women. Not only shopping, women also need information and a comfortable space to share. Kartinipedia: Center for Women's Needs and E-Commerce Android-based applications are a new breakthrough as a solution for women to get both in just one application. This study uses an approach based on literature analysis of the NPV approach. This article is for innovative performance measurement issues. It focuses on techniques that can be used for the evaluation of a single innovation project. This technique can guide a value innovation project by providing an indication of its financial potential.

Keywords: *Investment, Stock, Net Present Value*

1. Introduction

With current technological advancements, most human activities in various fields are being helped (Aini et al., 2019). Trade has not escaped the development of the times, the buying and selling process that was previously carried out in the center of the crowd, can now be done from inside the house (Rahardja, Aini, et al., 2019). In the past, a trader and buyer had to spend more time, money and energy to carry out transaction activities. However, at present various facilities are available with all its features, utilizing electronic commerce that can be accessed using a computer or smartphone, anytime and anywhere as long as it is supported by an internet connection network (Rahardja, Lutfiani, et al., 2019).

One part of e-commerce is the Marketplace, which is an electronic market that provides a place for many sellers and buyers to carry out various types of buying and selling transactions of goods or services like in an ordinary market but carried out virtually. Now the marketplace is in great demand because it is easy and convenient to use, especially for women. To achieve an attractive appearance, almost all women will spend their money to buy beauty products, fashion, and others so that women's needs are endless. Not only shopping, women also need women-only information and a comfortable space to share.

Kartinipedia : Women's Needs Center And E-Commerce Android Based Application is a new breakthrough as a solution for women to get both in just one application. Kartinipedia was inspired by one of the female national heroes in Indonesia who came from Jepara, namely Raden Ajeng Kartini. She is known as a pioneer in the revival of indigenous women of the archipelago. Kartinipedia is expected to be a forum for women in Indonesia to reflect the figure of R.A. Kartini.

The attitudes and behavior of each generation in relation to marketing interests affect online shopping behavior (Tingting (Christina) Zhang, Behzad Abound Omran, 2017). Research (Lissitsa, S., Kol, 2016) shows that the target market becomes more efficient if it is divided according to age segments based on generation. Generation X is the first generation that is familiar with technology because it has adopted the internet (Lissitsa, S., Kol, 2016). Generation Y is the generation that is currently the easiest to connect electronically to one another. They are also involved in online activities such as buying and selling online (Bilgihan, 2016). Generation Z are young adults born in 1995 or later, and are highly educated, technologically intelligent, innovative, and heavy users of technology (Priporas, C.-V., Stylos, N., Fotiadis, 2017).

The phenomenon of online shopping will grow rapidly and become an option for most people, especially women. This is because online shopping can save time without the need to visit shopping locations. Convenience is the biggest advantage of online shopping.

However, there are also problems and features that are expected to be found in the marketplace but are not yet available including: Never made an online purchase due to limited ability to use technology, fear of fraud, impractical transaction processing, and the inability to see and touch the product directly. While the features that consumers expect but are not yet available in the market place are media for consultation. Often a person needs to consider many things when going to buy a product. Until now, marketplace and consulting media are two different things.

Previously, e-commerce was intended for all people with heterogeneous segmentation. However, this application is specifically for women to get product and psychological needs. Kartinipedia has a target market of women who are in the technology literate generation and like the convenience of online shopping. Including the quality of service as expected, and features that make it easier and provide convenience for users so that they have the opportunity for consumer loyalty.

The founder of the Kartinipedia application has performed a system analysis using the System Usability Scale (SUS) with the result that the SUS score in this study was 83.88. Then assess the SUS score using the SUS score scale from Bangor. The following is the assessment of SUS according to Susilo, F. D. Wijaya, and R. Hartanto, (2018)

To find out the value of SUS which is in the acceptable category, Bangor argues that the system can be said to be is said to be feasible if it has an average SUS score of at least 70. Then for a system that can be categorized as good, it has average SUS scores from the 70s to 80s. And for systems that fall into the very good category, have an average SUS score above 90. And for a system that has an average SUS score below 70 it can be considered a system which should be monitored for further development (Susilo, F. D. Wijaya, and R. Hartanto, 2018). In a study conducted by the founder of the Kartinipedia application, the average SUS score obtained was 83.88. So the SUS value from the Kartinipedia application is included in the acceptable category. Based on these results, it can be said that this application can be used normally without any significant problems. but the founder of the Kartinipedia application has not done an analysis from a business perspective.

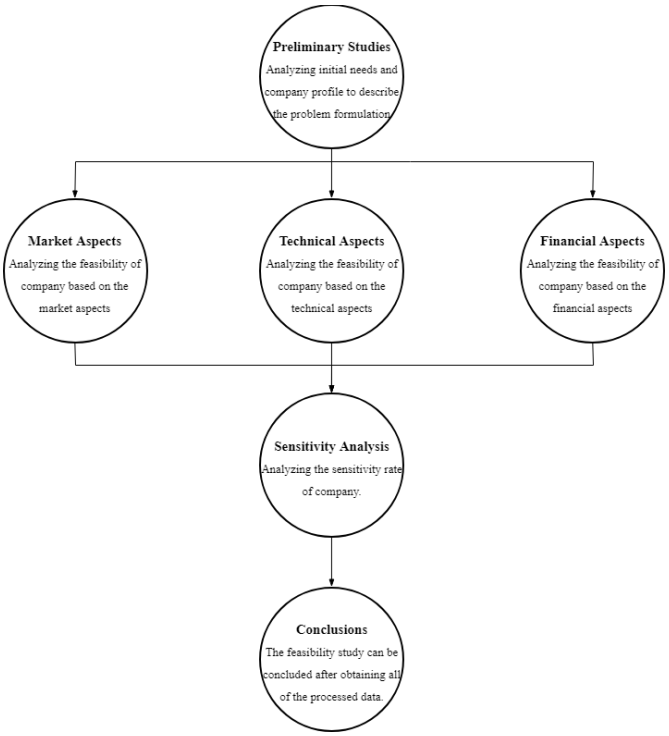
To perform a financial analysis of the Kartinipedia e-commerce application, assume the revenue of the Kartinipedia e-commerce application. According to Kamir and Jakfar, it can be used to avoid the risk of loss, and to overcome planning and control, as well as to ease the execution of work (Jakfar, 2012). From this study, it can be seen how marketing, technical

aspects, as well as estimates of initial capital and income, the owner of the Kartinipedia application can find out the prospects for future business development. Thus, the results of the study according to this can be an estimate of the income and profits that will be obtained by the owner of the kartinipedia application with the data provided. Later, this study can be considered in planning the development of the Kartinipedia application in the future.

2. Research Method

The research method is one of the methods used in a study to achieve research objectives which contains a formulation related to the object or main discussion to be carried out data collection, data collection procedures, and data analysis by taking into account the focus of a particular. This study uses two research methods, namely quantitative and qualitative.

The purpose of this paper is to provide systematic and updated overview of the innovation project evaluation with the help of net present value (NPV) approach as well as to address some important gaps in the existing research on the feasibility analysis carried out from the market aspect, then proceed with the technical aspect, and the result. will be processed on the financial aspect, and finally a sensitivity analysis will be carried out.



Picture 1. Research Conceptual Model.
Source : Zativita & Chumaidiyah, (2019)

The paper is based on literature analysis of NPV approach. The system approach and analysis and comparison are applied in this paper. Analysis is used as a method of acquiring new knowledge and for its interpretation. When processing secondary data, the secondary analysis method was used. The professional literature, and particularly foreign resources, provided a source of secondary data (Žižlavský, 2014). Comparison is used when various NPV approaches are compared in discussion section.

3. Results and Discussion

The observation stage is carried out indirectly by analyzing the documents needed in the development of the Kartinipedia application with the aim of finding out information related to the potential benefits that will be obtained from application development. While the interview stage is carried out by involving the Developer and Financial Teams Kartinipedia. It aims to ask some things that were not obtained through the observation process. The data obtained from the observation and interview stages are Analysis of potential benefits, where work is done to find out what benefits are likely to be obtained from developing the Kartinipedia application using the NPV approach.

To obtain data that can be used in the process of analysis of market aspects, the author calculates the estimated demand that the Kartinipedia application will obtain in the next 5 years. In implementing the application, an investment budget plan of Rp. 38,000,000 is made including:

Table 1. Investment Cost

No.	Deatil Item	Price (Rp)
1	Android Application	20.000.000
2	Web Administrator	8.000.000
3	AWS Domains	1.000.000
4	AWS Hosting	8.000.000
5	Google Play Store Administration	1.000.000
Total		**38.000.000**

After determining the initial investment, the company makes an annual operational cost budget plan of Rp. 222,000,000 which is used for Table 2.

Table 2. Operating Cost

No.	Description	Jumlah	Units	Price	Per Month	Per Year
1	Internet	1		1.000.000	1.000.000	12.000.000
2	Admin Salary	3	Org	3.000.000	3.000.000	27.000.000
3	Facebook social media promotion costs	1		2.000.000	2.000.000	24.000.000
4	Instagram social media promotion costs	1		2.000.000	2.000.000	24.000.000
5	Offline Promotion Fee	1		5.000.000	5.000.000	60.000.000.
6	Office equipment	1		4.000.000	4.000.000	48.000.000
7	Communication Fee	1		3.000.000	3.000.000	27.000.000
Total						**222.0000.000**

With the costs already mentioned, the company also makes an estimate of the income it will get every year as shown in Table 4.

The Kartinipedia application which is in the early development stage is feasible for investment and we offer 17% shares of Kartinipedia for angel investors from an annual operating cost budget of Rp. 222,000,000. angel investors can invest as much as Rp. 38,000,000.

With the costs already mentioned, the company also makes a cash flow forecast each year as shown in Table 3.

Table 3. Discounted Payback Period

Year	Estimated Cash Flow	PV 10%	PV Cash Flow	Cumulative Cash Flow
0	(100.000.000)	1	(100.000.000)	(100.000.000)
1	50.000.000	0,9091	45.500.000	54.500.000
2	40.000.000	0,8264	33.100.000	21.400.000
3	30.000.000	0,7513	22.500.000	11.00.000
4	10.000.000	0,6830	6.800.000	7.900.000

Discounted PP = 2 + 21.400.000/22.500.000 = 2,95 year

If the NPV is positive, the project is accepted.

NPV is seen as the best measure of a project's profitability because it focuses on the project's contribution to shareholder wealth.

Table 4. IRR calculation

Year	Estimated Cash Flow	DF 10%	PV 10%	DF 15%	PV 15%
0	(100.000.000)	1	(100.000.000)	1	(100.000.000)
1	50.000.000	0,9091	45.500.000	0,8696	434.800
2	40.000.000	0,8264	33.100.000	0,7561	302.440
3	30.000.000	0,7513	22.500.000	0,6575	197.250
4	10.000.000	0,6830	6.800.000	0,5718	57.180
			7.900.000		833.000

Here is the IRR Calculation:

$$IRR = i_1 + \frac{NPV_1}{NPV_1 - NPV_2} \times (i_2 - i_1)$$

$$IRR = 10\% + \frac{7.900.000}{7.900.000 - (-8.330)} \times (15\% - 10\%)$$

$$IRR = 10\% \frac{7.900.000}{7.985.749} \times (5\%)$$

IRR = 10% + (0,989 x 5%) = 14,9%

Based on the cash flow projections mentioned above, the payback period for the Kartinipedia application business is 2 years and 9.5 months. The term is better than the projected period of 5 years. The value of money invested in the 5-year NPV period is greater than the initial capital so this business is feasible to run. While the IRR was obtained at 14,9%, the value of that amount was greater than the bank's interest rate.

Sensitivity analysis is done to determine the level of corporate sensitivity to changes in input variables that affect it. This calculation and analysis is conducted so that business owners can anticipate the changes that may occur later so that this new branch can compete with competitors with changes in existing changes.

Table 5. Sensitivity Analysis

No.	Variable	Normal Scenario
1	NPV	7.900.000
2	IRR	14,9%
3	Payback Period	2,95 Year

4. Conclusion

There are several conclusions that can be drawn from making the Kartinipedia application. These conclusions include:

1. Based on the results of the analysis that has been done, it can be seen that the application has been downloaded 100+, the feasibility analysis of the Kartinipedia application according to market aspects is concluded to be feasible.
2. From the technical aspect, it is necessary to upgrade the application by adding new features to increase the users of the Kartinipedia application.
3. This application is feasible for companies to run with an estimated payback period of 2 years 9.5 months with an IRR value of 14,9%.
4. Based on the results of the sensitivity analysis that has been done. It was concluded that this application was feasible for investment and the founder offered 17% Kartinipedia shares for angel investors from an annual operating cost budget of Rp. 222,000,000. angel investors can invest as much as Rp. 38,000,000.

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