Business Design and Feasibility Of Doria Cafe Start Up Supported by Website Application in Bandung City

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Patria Donut is one of the start up businesses home-scale donut making established in 2018. Patria Donut produce in accordance with the number of orders from distributors and only in accordance with the desire to generate sales for end buyers. The location is difficult to reach by the customer makes this business unpopular. Seeing this fact, the owner wants to expand his business by opening a cafe in a more strategic location, in Jalan Lombok. We should do feasibility analysis by opening this café. The market is conducted by spreading questionnaires to 100 respondents (target 16-39 years) in Bandung. The results showed a potential market of 86%, 98% available market, and the target market the company aimed at 0.8% of the available market. Meanwhile technical aspects and financial aspects based on secondary data from various sources. The financial calculation obtained from the NVP value for 2020-2024 are Rp 229.258.502,00, the IRR percentage is 26,69%, and PBP is 4 years and 4 months. IRR obtained is greater than the MARR value of 9.95% and NVP is positive. From these parameters, the opening of the Doria Cafe on Lombok Street, Bandung was feasible. We used website to support this business design.

Keywords: Start Up, Feasibility Analysis, Website, Business Design

1. INTRODUCTION

Patria Donut is a home-based donut industry located on Cibereum Street No 80 Bandung. This made from selected flavour with various toppings on it such as chocolate sprinkles, beans, blueberry, strawberries, cheese, and the others. Patria Donut only provides donuts for distributors using the make to order ordering system and does not provide donut delivery services so customers must go to the location of Patria Donut.

Figure 1. Sales data of patria donut for January-December 2018

Patria Donut only acts as a producer and does not sell to end consumers through sales. Locations that are difficult to reach by the wider community cause this business is not widely known, this condition allows the development of the Patria Donut business. Business development that can be done is to increase the number of distributor customers or by doing independent production that will be sold independently through the opening of the cafe. Some considerations in the selection of alternative business development to be carried out by the company are that wholesale customers are usually customers who already have permanent producers to make orders and the number of orders is uncertain.

The opening of the cafe allows Patria Donut businesses to carry out their production plans independently, customers are end customers who are more flexible in purchasing their products, and the product value can rise so opening a cafe is preferred to be run. Every year, café and restaurants in Bandung experience was growth (Table 1). With the increasing number of café and restaurant growing each year, it indicates that the culinary business is also experiencing annual growth so that it can be said that for the time being the culinary business is quite promising.

Table 1. Number of Café and Restaurant in Bandung 2012-2017

Year	Number of Café and Restaurant	Growth
2012	196	
2013	235	19.90%
2014	432	83.80%
2015	653	51.15%
2016	795	21.74%
2017	870	9.43%

In addition, based on statistical data number of social media user in Indonesia in 2019 reached 150 million people, 16.4 million of whom were in West Java and Bandung was the largest Facebook user in West Java (16.4 million social media users from West Java, 2019). Doria Cafe will use Facebook as its media of marketing. In the era of digital development nowadays, not only online marketing but also café will provide online food purchases using a website so that consumers who don't have time to make purchases directly to outlets can order through the website to make it easier and not confiscate consumer time.

Based on the explanation of the problems that have been submitted, it is necessary to conduct a feasibility analysis and business website design to determine the level of investment success that will be carried out by Patria Donut business. The aim of this paper was to conduct feasibility analysis of the business development of the Patria Donut business as well as investment feasibility of construction based on technical aspects, markets aspects, and financial aspects as means by which companies can help in making decisions.

2. LITERATURE REVIEW

2.1 Feasibility Study

An analysis of whether an investment activity can provide benefits or results if implemented. Eligible in this study is the possibility of a business or project that will be implemented to provide benefits, both in terms of financial benefits and social benefits [1].

2.2 Market Aspect

Market can simply be interpreted as a meeting place for sellers and buyers to make transactions. Market is a location that allows buyers and sellers to meet to buy and sell products in the form of goods and services [2]. In determining the market there are several market criteria that must be measured to make it easier to determine the target market, namely:

- Potential market
- Available market
- Target market

2.3 Technical Aspect

Determination of the technical aspects of the company regarding matters relating to technical and operations. According to [3] technical aspects include discussion of business location, production area, production process, layout, and selection of technology and equipment.

2.4 Financial Aspect

In a feasibility study of business processes, it is necessary to analyze the financial aspects in order to determine the investment plan through the calculation of expected costs and benefits, by comparing expenses and revenues, such as the availability of funds, the cost of the model, the ability of the project to repay the funds within the allotted time and assess whether the project will continue to develop [4] Common methods are used to assess financial aspects such as Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period

(PBP).

2.5 Net Present Value (NPV)

Ratio between net cash PV (PV of Proceed) and investment PV (Capital Outlays) over the life of the investment. The difference between the two Present Value values is known as the Net Present Value (NPV) [2].

$$NPV = \frac{\text{Net cash 1}}{(1+r)} + \frac{\text{Net cash 2}}{(1+r)^2} + \dots + \frac{\text{Net cash n}}{(1+r)^n} - \text{Investment} \quad (1)$$

Where:

n = lifetime investment of project

r = modal – interest rate

Summary:

If NPV positive then the investment is received

If NPV negative then the investment is refused

2.6 Internal Rate of Return (IRR)

Technique to measure the rate of return on internal results [2]. It used to find the interest rate that equates the present value of expected cash flows in the future, or cash receipts by issuing an initial investment [9]. The formula is as follows:

$$IRR = i_2 + \frac{NPV_1}{NPV_1 - NPV_2} \times (i_2 - i_1) \quad (2)$$

Where:

i₁: Interest rate 1 NPV1 = NPV positive

i₂: Interest rate 2 NPV2 = NPV negative

Summary:

MARR < IRR, investment is accepted.

MARR > IRR, investment is declined.

2.7 Payback Period (PBP)

Technique for evaluating investment payback period for a project or business. It can be seen from the calculation of net cash obtained every year. Net cash value is the sum of profit after tax plus depreciation [2]. There are two types of calculation models that will be used in calculating the return on investment as follows:

If the net cash is the same every year:

$$PBP = \frac{\text{Investment}}{\text{Net cash/year}} \times 1 \text{ year} \quad (3)$$

If the net cash is different every year:

$$PBP = \frac{\text{Investment}}{\text{Net cash/year}} \times 1 \text{ year} \quad (4)$$

2.8 Sensitivity Analysis

Sensitivity analysis bases on the various possibilities that can be achieved starting from the most optimistic, to the most pessimistic possibilities. This approach is used to evaluate a project or asset by compiling estimates of cash inflow in a variety of results, according to [8]:

- Estimating optimistic investment results.
- Estimating reasonable investment returns, ie expectations that are most likely to be achieved (most likely).
- Estimating pessimistic investment results.

2.9 Risk Analysis

Risk is a variation of results that can occur over period of time [7]. Risk has two dimensions, namely uncertainty and consequences [5]. Risk is the possibility of something undesirable / unexpected that if it occurs can result in losses. In business, various kinds of risks can occur, and therefore it is necessary to do a risk analysis to provide predictions of the risks that may occur in the business being run.

2.10 Website

According to [6], a website is one form of application in which there are multimedia documents which can be in the form of images, animations, text, video, etc. and use the HTTP protocol (hypertext transfer protocol) then to use the website must use software such as a browser.

2.11 Data Flow Diagram (DFD)

Description of an existing system or a new system that is developed logically without considering the physical environment in which the data flows [6]. In the data flow diagram there are 3 levels, namely:

- Context Diagram
- DFD level 0

- DFD level 1

2.12 Use Case Diagram

States the visualization of interactions that occur between the user (actor) and the system. This diagram can be a good illustration to explain the context of a system so that clearly visible boundaries of the system [6].

2.13 Entity Relationship Diagram (ERD)

Technique used to model the data needs of an organization, usually by a system analyst in the analysis phase of a system development project requirement. While as if the diagramming technique or teaching aids provide the basis for the design of the relational database that underlies the information system developed [6] Cardinality states the number of sets of relations between entities. Cardinal mapping consists of:

- One-To-One (1-1)
- One-To-Many (1-N)
- Many-To-Many (N-M)

3. METHODOLOGY

Figure 2. Conceptual diagram

Figure 2 is a conceptual model of Patria's Donut business development. It can be seen the relationship between the factors that describe the problems of this study. Factors that are believed to influence the final result of the problems that have been presented previously consist of 3 aspects, namely market aspects, technical aspects and financial aspects.

4. RESULT AND ANALYSIS

4.1 Market Aspect

Data collected for the market aspect is done by distributing questionnaires that have been designed and distributed to 100 respondents. After all responses have been recapitulated, validity and reliability tests have been carried out, the results of which show that the questionnaire distributed was valid and reliable. Results of the distribution of questionnaires can be seen how many market demand below.

Table 2. The number of visitors based on questionnaire

The number of visitors based on questionnaire		
Market criteria	Percentage	Visitors
Potential market	86%	2,878,629
Available market	98%	2,811,684
Target market	0.88%	24,855

Estimated demand is determined based on the target market (ability to meet demand) and the amount of demand from competitors. Estimated demand from Doria Cafe on food menus is 30% (with the purchase of 3 menus per visitor) while the drinks menu is 70% (with the purchase of 2 menus per visitor). Demand will increase every year by 2.62% following the increase in population, namely residents of the city of Bandung aged 15-39 years.

Table 3. Estimation demand projection

Menu	2020	2021	2022	2023	2024
Food (30%)	22,209	22,791	23,389	24,001	24,630
Beverage (70%)	34,903	35,816	36,754	37,716	38,703
Total	57,112	58,607	60,143	61,717	63,333

4.2 Technical Aspect

To analyze what needs are needed so that this business runs it is necessary to collect all types of data that support this business, especially in technical matters such as operational equipment, employees, raw materials and others as well as the data needed in website design. The data was obtained through interviews with Patria Donut owners and by observation of Patria Donut.

Figure 3 is a description of the time of the business process as well as a map of the operation process (to create food and beverage menus) that have been designed. The longest business process time is to place an order and the shortest is an order to the supplier. While the longest operation time is in making donuts and making sweet hot tea requires the shortest time.

Figure 3. Business process time and OPC

To support activities in the business process, a cash register is needed. Meanwhile, 34 facilities are needed to support activities on the operational process map. Additional facilities such as air conditioning, chairs and tables are also needed for the convenience of consumers. All these facilities will be stored and used on Jl. Lombok (Riau) City of Bandung which is the chosen business location of Doria Cafe. At that location the building has an area of 290 square meters and a land area of 120 square meters with an annual rental fee of Rp. 170,000,000.00.

All business processes and operational processes that have been designed will be carried out by direct workers of 6 people per day which are divided into 2 work shifts. In addition to direct labor, there are indirect workers (management) consisting of 3 functional positions. In the website design section, the website is designed with structured model with ERD, UML models with Use Case Diagrams, and using ERD.

Figure 4. Use case diagram

There are two actors who interact using a website. The first actor is a consumer who can conduct interactions such as, search for cafe info, search for products, put the product in a basket, and place an order. To make an order, consumers must first find the desired product and then put the product in the basket. The second actor is the admin who can interact such as managing info cafe, managing all products, and managing info cafe. To do each of these interactions the admin must log in first.

4.3 Financial Aspect

In the financial aspect, all data relating to costs in the market and technical aspects will be processed for feasibility calculation and sensitivity analysis. Demand data on market aspects is used as a reference to calculate income and production costs. While data obtained from technical aspects is used to calculate investment and production costs, operating costs, profit and loss, fund requirements, cash flow, and balance sheet.

Sales revenue is a projection of Doria's Cafe revenue from the sale of menus offered, consisting of sales of food and beverage menus. The food menu has a selling price of Rp. 8,000.00 and drinks menu with a price range of Rp. 15,000.00 to Rp. 25,000.00. The accumulated income in 2020 is Rp 980,437,000.00. Doria's Cafe revenue increased with increasing demand, which was 2.62%.

Production costs are costs incurred by Doria Cafe for its production activities, consisting of raw material costs and production overhead costs. Of all Ice Coffee Milk drinks menus, the highest raw material cost is Rp. 11,863.00, while for food menu, the highest raw material cost is Chocolate Donuts, which is Rp. 4,732.00. Costs incurred for production overhead consist of electricity costs of Rp. 874,596.00 / month and direct labor salaries of Rp. 2,325,000.00 / month.

The total investment cost of Doria Cafe is Rp. 226,004,200.00. These costs are derived from the need to purchase goods that are included in the facilities used to support Doria's Cafe business activities. In this study the economic age for each item is 4 (four) years based on the Minister of Finance Regulation No. 96 / PMK.03 / 2009. Using the straight line method, the total depreciation of the facility is Rp 14,001,050.00. The residual value in 2024 is Rp. 47,274,915.00.

The operational costs incurred by Doria Cafe are depreciation costs, marketing costs, electricity costs, human resource costs, and technology costs. The accumulated operational costs in 2020 amounted to Rp 203,452,678.00 and continued to increase with an increase of around 3% each year.

Figure 5. Net profit (after tax)

Figure 6. Final cash balance

The income statement can show the financial performance of Doria Cafe every year, whether making a profit or loss. It can be seen in Figure 5 that Doria Cafe does not experience a loss or make a profit every year. With Doria Cafe making a profit, a tax of 10% applies based on Bandung City Regulation No. 20 of 2011.

The funds needed by Doria Cafe to start their business consist of the calculation of the cost for a fixed investment of Rp 226,004,200.00, working capital estimated for 4 months of Rp 155,653,310.00, and the cost of making a business permit of Rp 3,000,000 .00. Source of funds to meet the funding needs of Doria Cafe to prepare their own capital of Rp. 384,657,510.00.

Cash inflows and outflows at the Doria Cafe business always have a positive value on the final cash balance. This can mean that the management of cash inflows and outflows can be said to be good because they do not experience a negative balance (debt). The value of the final cash balance are positive.

A balance sheet report can show a picture of Doria's Cafe financial position in each year where the assets (funds allocated on the debit side) and liabilities (funds originating from the credit side) look balanced. That way it can be said that Doria Cafe is able to manage its finances properly.

4.4 Feasibility Analysis

The feasibility calculation is performed to find out whether the business that will be undertaken can be declared feasible or not. Based on the calculation results, the NPV is positive, namely Rp. 229,258,502.00 with an IRR is (26.69%)> MARR (9.95%), which means the business is feasible to run. Meanwhile, Doria's Cafe business will experience PBP at 4.35 years after it runs or about 4 years and 4 months after it runs.

4.5 Sensitivity Analysis

Carried out to measure the level of sensitivity by looking at the effect of changes of certain variables. Changes occur in demand variables that are sensitive to a decrease of 7%, selling prices that are sensitive to a decrease of 5%, prices of raw materials that are sensitive to an increase of 22%, and basic salaries that are sensitive to an increase of 34%. The variable that is most sensitive to change is the selling price variable.

4.6 Risk Analysis

By conducting interviews with owners, possible risks consist of market risk (0.88%), operational risk (1.76%), financial risk (0.88%) and technology risk (0.88%). If accumulated between MARR and risk, the MARR +

Risk value is 14.36%. With an IRR value (26.69%) > MARR + Risk (14.36%), Doria's Cafe business is declared feasible.

5. CONCLUSION

It was simulated that conclusions of this study are as follows, the target market for Doria Cafe is 0.8% with 24,855 visitors or 57,113 products in the first year. Demand will increase annually by 2.62% following the increase in population in the study. Doria Cafe needs funds to run its business in the amount of Rp384,657,510.00 which comes from its own capital. The costs invested are Rp. 226,004,200.00, for a 4-month working capital of Rp. 155,653,310.00 and the making of a business permit is Rp. 3,000,000.00. The location of Doria's Cafe business location is on Jl. Lombok (Riau) City of Bandung.

There are two actors who interact using a website. The first actor is the consumer and the second actor is the admin. Doria's Cafe business is declared worth running. Because it meets the requirements where the results of the NPV calculation are positive with a value of Rp. 229,258,502.00. In addition, the IRR value is greater than MARR (26.69% > 9.95%) and this business has a PBP value of 4.35 (around 4 years 4 months).

There are 4 variables of change, namely decreasing demand, decreasing selling price, increasing raw material prices, and increasing basic salaries. The variable that is the most sensitive to change is the selling price. The selling price is sensitive to a decrease of 5%. With a MARR + Risk of 14.36% the Doria Cafe business is still feasible to run, because the IRR value is greater than the MARR + Risk (26.69% > 14.36%). There are some limitation conduct research with the website including the point of sales system and conducting research to compare by making menu innovation also investment on facility will be get benefit or vice versa.

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