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# *Business Feasibility Analysis: Practical Plastic Clothes Hanger Innovations*

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## *ABSTRACT*

*In Indonesia, the demand for clothes hanger products is reasonably high. Clothes hangers nowadays come in a variety of shapes and colours. However, one disadvantage of some previous clothes hangers is that they require us to nail or drill holes in the walls to use them. Therefore, this study aims to address the shortcomings of existing products by providing practical innovations for clothes hangers that do not require nailing or drilling into walls, namely by placing the hanger hooks between the holes in the door. The method used in this research is Quality Function Deployment (QFD). Once the data processing results are known, a House of Quality (HOQ) is created. After conducting the research, it was shown that the results of product innovation with business feasibility aspects were feasible, as they met the specified criteria, provided they had their own waste management tools.*

***Keywords:*** *Business Feasibility Analysis, Hangers, House of Quality (HOQ), Product Development, Quality Function Deployment (QFD)*

## Introduction

Population growth is increasing, driving demand for housing. Over time, product development continues to be carried out to meet consumer needs and desires. Product design and development are processes related to the existence of a product and include activities from identifying consumer desires to fabricating, selling, and shipping products. [1], [2], [3], [4]. Humans, as consumers, are always treated as objects in the development of every product. These products are expected to satisfy and meet human needs. One of them is in clothes hanger products. Hangers are used to hang clothes and make them look neat. However, some clothes hangers available today require us to nail or drill into the wall to use them. Therefore, this research aims to develop products that address shortcomings in existing hangers by providing practical innovations that do not require nailing or drilling into walls, namely by placing hanger hooks between the top holes of the door.

To find out whether the design and development of products is feasible or not, it is necessary to conduct a business feasibility study analysis based on aspects of business feasibility studies, namely juridical elements, technical and technological aspects, market and marketing aspects, financial aspects, organizational aspects, competitive/socioeconomic aspects, and SKB studies aspects (AMDAL).

### *Quality Function Deployment* (QFD)

QFD is used to develop products based on consumer needs and desires that manufacturers later produce. And this is supported by research. [5], [6], [7], [8], [9], [10] QFD is a structured methodology used in the product planning and development process to determine the specifications of consumer needs and wants, and to systematically evaluate the advantages and disadvantages of a product or service's capabilities in meeting those needs and wants.

### *House of Quality* (HoQ)

HoQ is a form of application in the QFD methodology. This was stated by [11], [12], [13] The House of Quality (HoQ) is the first stage in applying the QFD methodology. In an attempt to convert *Voice of Customer* directly to the technical characteristics or technical specifications of a product (goods or services) produced.

### Juridical Aspects

The Juridical aspect is to determine whether, under the law, the business plan is feasible or unfeasible. Based on opinion [14] Legal aspects in the feasibility study analysis: (1) The form of business entity to be used. (2) Guarantees that can be provided if you use a source of funds in the form of loans. Various deeds, certificates, permits, and so on are required.

**Technical and Technological Aspects**

The next step in determining the feasibility of a business plan is to analyze technical and technological aspects. Technical feasibility assessments relate to technical or operational aspects. [15] Said the technical aspects are directly related to the company's operations, such as production capacity, technology to be used, production scale, production process, location, layout, scheduling, and inventory levels. According to [16, p. 115] Some things must be achieved in the assessment of technical aspects, namely, (1) the company must have the correct location to reach the market. (2) So that the company can determine the layout that is in accordance with the selected production process, so that the production process provides efficiency. (3) For the company to determine the right technology for the production process.

**Market and Marketing Aspects**

In a business feasibility study, market and marketing aspects are used to assess product demand and supply. Some topics to be discussed in this market section include current market conditions, estimates of future market conditions, and market potential. According to [17] Marketing is a total system of business activities designed to plan, price, promote, and distribute goods and services that satisfy the desires of current and potential consumers.

**Financial Aspects**

In business, financial analysis is needed, including technical economic calculations such as NPV, *Payback period*, and *Internal Rate of Return* (IRR). This is in accordance with what is explained by [18] The financial analysis method used is *Discounted Payback Period* (DPP), *Net Present Value* (NPV), and *Internal Rate of Return* (IRR).

***Payback Period* (PP)**

According to [19] The Method Payback Period is an assessment technique for the period required to recover the initial investment in a project using the cash inflows generated by the project. If the cash flow is not the same, it must be sought one by one, namely by reducing the total investment by *Cash flow until the total investment equals Cash flow* in a given year.

*Payback Period* (PP) = $\frac{I}{Ab}$ x 1 year

Description:
I: Investment value
Ab: Net cash inflows that have been discounted
Requirements:
PP > Economic Age: Not Eligible
PP < Economic Age: Eligible

***Net Present Value* (NPV)**

According to [20] Method *Net Present Value* is a method that calculates the difference between the present value of an investment (*Capital Outlays*) and the present value of net cash receipts (present value of proceeds), good from operational *Cash flow* or from the terminal *Cash flow* in the future (during the life of the investment).

NPV = $\sum^{n} \frac{Bt-Ct}{(1+i)^t}$

Where:
NPV: *Net Present Value*
Bt: Benefit or benefit in the year t
Ct: *Cost* or fees in the year t
i: Interest rate used
t: year to

The NPV feasibility indicator is that if it has a positive value (NPV > 0), then the business is feasible to run. At the same time, if it produces a negative NPV (NPV < 0), then the business is not feasible to run.

***Internal Rate of Return* (IRR)**

IRR is the interest rate that returns the cost of capital. As stated by [21] IRR analysis is used to determine interest rates that equalize the present value of expected future cash flows.

IRR = $i1 + \{ i\frac{NPV_1}{NPV_1 - NPV_2} \boldsymbol{x} (i_2 - i_1) \}$

The IRR exceeds the applicable bank interest rate, so the business is worth pursuing. On the other hand, if the IRR is smaller than the relevant interest rate, then the company is not feasible to run.

**Organizational Aspects**

In the organizational aspect, it includes designing organizational structures, planning workforce size, and planning workforce training. Organizational structure is used to determine the division needed. This is according to what was stated by [22] An organizational structure is needed to explain the work activities, as well as to pay attention to the relationship between functions and activities in the field of expertise. The organizational structure also explains the hierarchy and authority structure, as well as the reporting relationships.

**Competition/Socio-Economic Aspects**

The competitive analysis examines competitors' strengths and weaknesses. The statement supports this. [23] Competition in marketing is a situation in which a company in a given market for a product or service demonstrates its own advantages, with or without regulatory constraints, to reach its customers.

**Aspects of SKB Study (AMDAL)**

The SKB Study (EIA) primarily aims to determine the environmental impact of a business activity. In accordance with the Environmental Impact Analysis (EIA) statement, according to [24] It is the result of a study on the impact of an activity planned and estimated to have a significant environmental impact.

## Research Methods

This study was conducted by collecting primary data, namely conducting interviews with an open questionnaire on a total of 53 respondents with an age range of <20 - 30 years. And the questionnaire was completed by a total of 38 respondents, with an age range of < 20 – 30 years. *The tools* used in this study are HoQ.

The steps taken in the study began by distributing questionnaires, analyzing data with spss, interpreting the data, and creating *a House of Quality* (HoQ) matrix to determine the needs of respondents into the technical characteristics of the product. The processed data was analyzed to inform the business feasibility study, and the conclusions were drawn.

**Consumer Needs and Desires in Clothes Hanger Products**

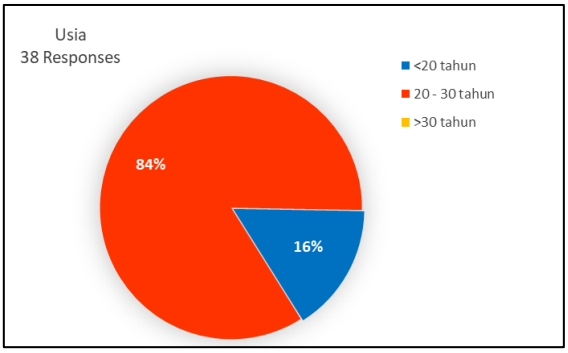


**Figure 1**. The pie chart shows the age range of the respondents

Figure 1: The respondents who filled out the questionnaire the most were in the age range of 20-30 years, stating that they needed a clothes hanger product:

a. Flexible
b. Safe to use
c. Strong
d. Practical use
e. Colour varies
f. For Minimalist design
g. No nails required
h. Good quality materials. Doesn't take up space
i. Durable

j. Portability
k. Easy to store (*storable*)

## Results and Discussion

### Data Sufficiency Test

The number of respondents to the open questionnaire was 53. The number of closed questionnaires to be distributed is 35, using the Slovin formula with an accuracy level of 0.1. Then, using the data adequacy test, the required sample size was determined to be n' = 18,248. Based on the results of the calculation of the data adequacy test, N = 35 ≥ n'= 18,248. Then the number of valid questionnaires is sufficient to continue the research.

### *House of Quality* (HoQ)

From the design results, consumers need flexible products, practical, do not take up space, easy to carry, easy to store, safe to use, durable, strong, do not require nails/drills, minimalist design, varied colours, and good quality materials. Feeding on attribute 1 is strongly related to the characteristics of techniques 1 and 2. Attribute 2 is practical, meaning consumers want products that are simple to use. There is a medium relationship between attribute two and technique characteristics 2 and 3. Attribute 3: Consumers want a product that doesn't take up space. This happens because some hangers sometimes take up a lot of space when in use. Attribute 3 relates to the medium and the characteristics of techniques 2 and 3.

When you need a hanger somewhere, consumers sometimes need ones that are easy to carry; this is found in attribute 4. Thus, attribute 4 has a strong relationship with technique characteristics 1. In addition, the hanger can be carried anywhere. Consumers also need hangers that are easy to store, so they can be kept in bags. This is found in attribute 5, which has a medium relationship with the characteristics of techniques 1, 2, and 5.

In attribute 6, consumers want products that are safe to use. This happens because clothes often fall off when hung because of the hook's unsafe arch. Thus, attribute 6 has a strong relationship with technique characteristics 1. Consumers need products that are durable or remain durable over time. Thus, attribute 7 has a strong relationship with the characteristics of techniques 1 and 3, and with the relationship between the medium and technique 2.

Consumers also need a strong hanger in holding the load. This is contained in attribute 8, with a strong relationship to the characteristics of techniques 1 and 3, and a medium relationship to the attributes of technique 2. The uniqueness of the Practical Plastic Clothes Hanger is that it does not require nails/drills when used. Consumers want this because it is considered practical and does not damage the house's walls. Thus, attribute 9 shows a strong relationship with the characteristics of techniques 2 and 3.

Minimalist design remains the choice of many consumers for its aesthetic appeal. This is contained in attribute 10, which has a strong relationship with the characteristics of techniques 2 and 5. And medium on technical characteristics 3. In addition to minimalist design, consumers also want colour variations in products. Thus, attribute 11 shows a strong relationship with the characteristics of techniques 3 and 5, as well as with the relationship between the medium and technique 2.

Attributes that are needed and desired by consumers are no less important, namely, good quality materials. Quality materials will make the product durable. Therefore, attribute 12 is strongly related to the characteristics of techniques 1 and 3. The relationship between the technique's attributes and characteristics is shown in Figure 2.

| | | | *Penilaian Konsumen* | Jenis Bahan | Model Produk | Biaya Produksi | Kelengkapan Produk | Kenadahan Bentuk |
|---|---|---|---|---|---|---|---|---|
| *Customer Requirement (WHATS)* | *Performance* | Fleksibel | 4 | ● | ● | ○ | ▽ | ▽ |
| | *Features* | Praktis Digunakan | 4 | ▽ | ○ | ○ | ▽ | ▽ |
| | | Tidak Memakan Tempat | 4 | ▽ | ○ | ○ | ▽ | ▽ |
| | | Mudah Dibawa (*Portability*) | 3 | ● | ○ | ▽ | ▽ | ▽ |
| | | Mudah Disimpan (*Storable*) | 4 | ○ | ○ | ▽ | ▽ | ○ |
| | *Reliability* | Aman Digunakan | 4 | ● | ○ | ▽ | ▽ | ▽ |
| | *Durability* | Tahan Lama | 4 | ● | ○ | ● | ▽ | ▽ |
| | | Kuat | 5 | ● | ○ | ● | ▽ | ▽ |
| | *Servicebility* | Tidak Memerlukan Paku/Bor | 2 | ▽ | ● | ○ | ▽ | ▽ |
| | Estetika | Desain Minimalis | 3 | ○ | ● | ○ | ▽ | ● |
| | | Warna Bervariasi | 1 | ▽ | ○ | ● | ▽ | ● |
| | Kualitas yang Dirasakan | Bahan Berkualitas Baik | 4 | ● | ▽ | ● | ▽ | ▽ |

**Figure 2**. Matrix of product attribute relationship with engineering characteristics

Figure 2: The relationship of product attributes to engineering characteristics, with descriptions:
●: Strong (value of 9)
○: Medium (worth 3)
▽: Weak (value 1)

In *the House of Quality*, the amount is placed on the *roof*. Using a roof matrix makes it easier to check each pair of engineering characteristics. It is shown in Figure 3.

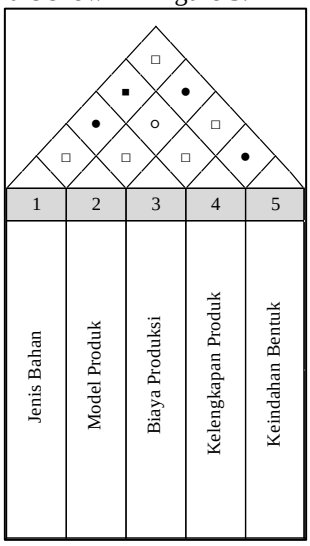


**Figure 3**. Relationship between fellow engineering characteristics

Figure 3: There is a relationship between the characteristics of the technique, with the following description:
●: Strong positive
○ : Positive
□ : Negative
■: Strong negative

At *the House of Quality, you can find the assessment of the* technical competition between Practical Plastic Clothes Hanger products and competitor products. The technical competition evaluation is shown in Figure 4.

| *Penilaian Teknik (Hows)* | | 5 | 3 | 1 | 4 | 5 |
|---|---|---|---|---|---|---|
| *Penilaian Persaingan Teknik (Hows)* | *Produk Gantungan Pakaian Plastik Praktis* | 4.3 | 4.1 | 3.9 | 4.2 | 4.3 |
| | *Gantungan Pakaian Plastik Lion Star (KOMPETITOR)* | 3.4 | 3.4 | 3.7 | 3.6 | 3.4 |
| *Nilai Target* | | 4.4 | 4.2 | 4.0 | 4.3 | 4.4 |
| *Bobot Absolut* | | 291.0 | 267.0 | 261.0 | 126.0 | 162.0 |
| *Bobot Relatif* | | 373.5 | 352.2 | 340.4 | 164.9 | 209.1 |

**Figure 4**. Evaluation of technical competition

Figure 4: In the assessment of engineering competition, the product of Practical Plastic Garment Hanger is superior to competitor products. There is a target value for the desired Practical Plastic Clothes Hanger product. The absolute weight and relative weight are obtained from the calculation results.

The assessment of the Practical Plastic Clothes Hanger product's competitive advantage relative to the competitor's product is shown in Figure 5.

| Pen. Per. Karakteristik | Produk Gantungan Pakaian Plastik Praktis | Gantungan Pakaian Plastik Lion Star (KOMPETITOR) | Nilai Target | Faktor skala | Poin Penjualan | Bobot Absolut |
|---|---|---|---|---|---|---|
| | 4.46 | 3.31 | 4.60 | 1.03 | 1.50 | 6.19 |
| | 4.40 | 3.71 | 4.50 | 1.02 | 1.50 | 6.14 |
| | 4.51 | 3.63 | 4.60 | 1.02 | 1.50 | 6.11 |
| | 4.23 | 3.51 | 4.30 | 1.02 | 1.20 | 3.66 |
| | 4.43 | 3.60 | 4.50 | 1.02 | 1.20 | 4.88 |
| | 4.40 | 3.31 | 4.50 | 1.02 | 1.20 | 4.91 |
| | 4.51 | 3.83 | 4.60 | 1.02 | 1.20 | 4.89 |
| | 4.71 | 3.80 | 4.70 | 1.00 | 1.20 | 5.98 |
| | 4.14 | 2.49 | 4.20 | 1.01 | 1.20 | 2.43 |
| | 4.20 | 3.31 | 4.30 | 1.02 | 1.20 | 3.69 |
| | 3.77 | 4.26 | 3.90 | 1.03 | 1.20 | 1.24 |
| | 4.46 | 3.83 | 4.50 | 1.01 | 1.20 | 4.85 |

**Figure 5**. Characteristic competition assessment

Figure 5: In the assessment of competition characteristics, there is a characteristic assessment between the products of Practical Plastic Clothes Hangers and the competitor products—evaluation of the desired product target, scale factor, sales points, and absolute weight.

In the final stage of this QFD, all of the above steps are combined to produce a *House of Quality* as shown in Figure 6.

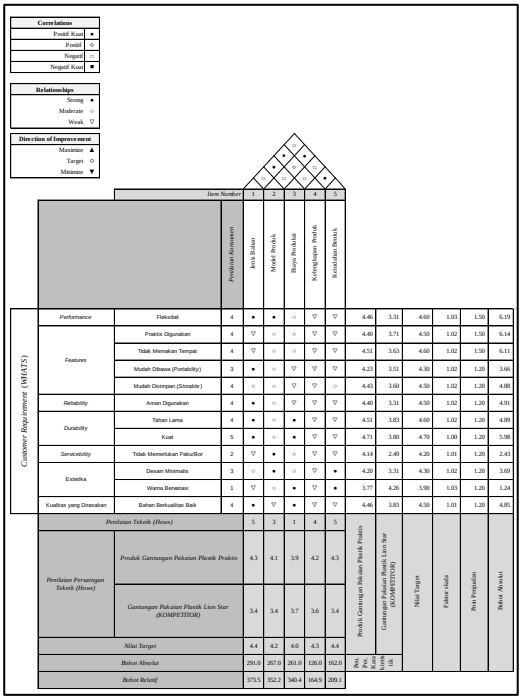


**Figure 6**. House of Quality (HoQ)

Figure 6: Visible HoQ from the combined overall steps above. After conducting research, it was found that the results based on the HOQ, the value of the characteristic competition assessment index, and the technical competition assessment of plastic clothes hanger products were practically higher than those of competitor products from Lion Star clothes hangers, indicating that plastic clothes hanger products are almost feasible to implement.

Compared to competitors' Lion Star clothes hangers, the advantage of practical plastic clothes hangers is their ease of use, as they do not require nails/drills to install. The design is also minimalist, so it doesn't require much space and is easy to carry.

**Design**

Based on the consideration of the product specifications that consumers want, the specifications applied to Practical Plastic Clothes Hangers are determined as follows:

a) Hanger weight 200 grams with a total of *3* hooks
b) Hanger *body* height 9.5 cm
c) Hanger *body* length 9.5 cm
d) Hanger hook length 3.5 cm
e) Hanger hook height 3 cm
f) Hanger hook width 2.8 cm
g) Thickness of the hanger hook between the door 0.4 cm
h) Distance between *hooks* 1 cm
i) Foldable hanger

Here's an example of a picture on the Practical Plastic Clothes Hanger product. It is shown in Figure 7.

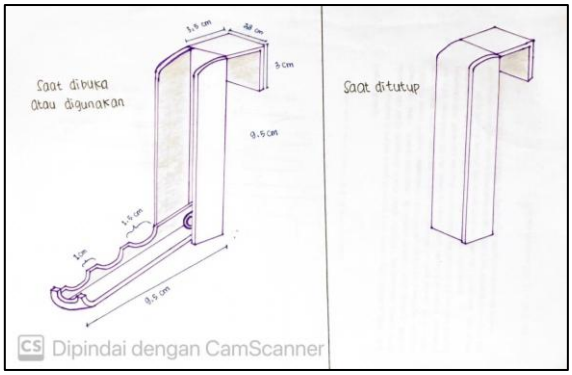


**Figure 7**. Practical plastic clothes hanger design

Figure 7: Practical Plastic Clothes Hanger product design, when the product is used and when the product is folded or closed.

**Juridical Aspects**

As of January 2021, Practical Plastic Clothes Hangers lacks legal legitimacy due to its small scale. Practical Plastic Clothes Hanger plans to ensure compliance with all applicable laws and regulations in this business development plan. The researcher found that the legal requirements for the Practical Plastic Clothes Hanger based on the Disperindag are the Business Domicile Certificate (SKDU), NPWP (Taxpayer Identification Number), Commercial Business License (UD), Business Place License (SITU), Principal License, Industrial Business License (SIUI), SIUP (Trade Business License), Industrial Registration Certificate (TDI), and TDP (Company Registration Certificate). Meanwhile, business entities that are in accordance with the Practical Plastic Clothes Hanger are individual business entities that do not require a formal deed (notary deed) of the business entity based on [25]. The feasibility of the juridical or legal aspects is deemed feasible because the Practical Plastic Clothes Hanger meets all applicable requirements and permits.

**Technical and Technological Aspects**

The technical and technological aspects of Practical Plastic Clothes Hangers include an injection moulding *machine*. The business is located in the research house, which is relatively easy to reach the market. Based on the results of the researcher's observations, the space has an area of 6 x 12 meters with a space area of 72m$^2$. The researcher has created the room's layout. The researcher has also prepared a list of equipment and supplies, including plastic seeds and plastic seed dye, totaling IDR 210,880,000. The number of workers needed is four people; some work from printing plastic seeds to packaging. The required investment in technical and technological aspects is IDR 323,353,100. Technical and technological elements are declared feasible because they can meet three criteria, namely (1) the company must have the correct location to reach the market. (2) So that the company can determine *the layout* that is in accordance with the selected production process, so that the production process provides efficiency. (3) For the company to determine the right technology for the production process.

**Market and Marketing Aspects**

In the market and marketing aspects, data on consumption expenditure by the Indonesian population are obtained. There are various categories of durable goods needs, with the third-largest percentage at 10.62% (Central Statistics Agency, 2017). This means that the Indonesian population has a relatively high level of consumption and demand for goods.

In terms of marketing, geographically, Practical Plastic Clothes Hangers are marketed in all regions in Indonesia, but the first sales will start in urban areas. Demographically, this product can be used by men and women across the teenage-to-adult range. Psychographically, it is divided by social class and lifestyle. In terms of social class, namely the lower and middle classes. The target market is residents of residential houses who need clothes hangers. The advantages and differences of Practical Plastic Clothes Hangers compared to competitor products are that this product is unique and does not require nails/drills to use, so it does not damage walls. Easy to take anywhere if you want to move it.

The marketing strategy carried out is to sell products in various *e-commerce platforms, and* place advertisements on social media such as Facebook *ads*, Instagram, and others. Based on the analysis of the market and marketing aspects, the Practical Plastic Clothes Hanger business is deemed feasible given market opportunities and marketable strategies.

**Financial Aspects**

On the *financial* side, Practical Plastic Clothes Hanger calculates the initial investment cost, cash flow, payback period (PP), *Net Present Value* (NPV), and *Internal Rate of Return* (IRR). The result of the initial investment cost calculation was IDR 323,353,100. *The Payback Period* (PP) is 2 Years and 3 Months, and the economic life is 10 years; thus, PP < 10 years, indicating feasibility. *The Net Present Value (NPV) of IDR 117,814,701 suggests* that it is possible. *The Internal Rate of Return* (IRR) is 75%, the interest rate is 6%, so that the IRR > 6% is declared feasible.

The cash flow calculation during the life of the business analysis is shown in Table 1.

**Table 1**. Cashflow calculation

| URAIAN | 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|---|
| MODAL AWAL | Rp 323,353,100 | | | | | |
| PERSEN BUNGA PINJAMAN (EFEKTIF) | 6% | | | | | |
| TOTAL UTANG | Rp443,667,115 | | | | | |
| Quantity Produk | 1320 | 15840 | 15840 | 15840 | 15840 | |
| Harga Jual | Rp 25,000 | Rp 25,000 | Rp 25,000 | Rp 25,000 | Rp 25,000 | |
| CASH INFLOW | | | | | | |
| PENERIMAAN PENJUALAN | Rp 33,000,000 | Rp 396,000,000 | Rp 396,000,000 | Rp 396,000,000 | Rp 396,000,000 | |
| PINJAMAN | Rp 323,353,100 | | | | | |
| TOTAL INFLOW | Rp 356,353,100 | Rp 396,000,000 | Rp 396,000,000 | Rp 396,000,000 | Rp 396,000,000 | |
| OUTFLOW | | | | | | |
| 1. BIAYA INVESTASI | | | | | | |
| Mesin Injection Molding | Rp 100,000,000 | | | | | |
| Total Biaya Investasi | Rp 100,000,000 | Rp - | Rp - | Rp - | Rp - | |
| 2. BIAYA OPERASIONAL | | | | | | |
| a) Biaya Tetap | | | | | | |
| Gaji Karyawan | Rp 72,000,000 | Rp 72,000,000 | Rp 72,000,000 | Rp 72,000,000 | Rp 72,000,000 | |
| THR | Rp 14,400,000 | Rp 14,400,000 | Rp 14,400,000 | Rp 14,400,000 | Rp 14,400,000 | TOTAL |
| Biaya Pemeliharaaan | Rp 3,000,000 | Rp 3,000,000 | Rp 3,000,000 | Rp 3,000,000 | Rp 3,000,000 | |
| Ongkos Transportasi | Rp 2,400,000 | Rp 2,400,000 | Rp 2,400,000 | Rp 2,400,000 | Rp 2,400,000 | |
| Listrik dan Air | Rp 7,200,000 | Rp 7,200,000 | Rp 7,200,000 | Rp 7,200,000 | Rp 7,200,000 | |
| WiFi dan Pulsa | Rp 3,473,100 | Rp 3,473,100 | Rp 3,473,100 | Rp 3,473,100 | Rp 3,473,100 | |
| Biaya penyusutan | Rp 10,000,000 | Rp 10,000,000 | Rp 10,000,000 | Rp 10,000,000 | Rp 10,000,000 | |
| Total Biaya Tetap | Rp 102,473,100 | Rp 102,473,100 | Rp 102,473,100 | Rp 102,473,100 | Rp 102,473,100 | |
| b) Biaya Variabel | | | | | | |
| Biji Plastik Polypropylene (PP) | Rp 34,848,000 | Rp 36,590,400 | Rp 38,419,920 | Rp 40,340,916 | Rp 42,357,962 | |
| Batchmaster Pewarna Plastik | Rp 76,032,000 | Rp 79,833,600 | Rp 83,825,280 | Rp 88,016,544 | Rp 92,417,371 | |
| Total Biaya Variabel | Rp 110,880,000 | Rp 116,424,000 | Rp 122,245,200 | Rp 128,357,460 | Rp 134,775,333 | |
| Total Biaya Operasional | Rp 213,353,100 | Rp 218,897,100 | Rp 224,718,300 | Rp 230,830,560 | Rp 237,248,433 | |
| 3. PEMBAYARAN PINJAMAN | Rp 119,809,883 | Rp 113,881,147 | Rp 107,952,410 | Rp 102,023,674 | Rp - | |
| TOTAL OUTFLOW | Rp 433,162,983 | Rp 332,778,247 | Rp 332,670,710 | Rp 332,854,234 | Rp 237,248,433 | |
| LABA BERSIH SEBELUM PAJAK | -Rp 76,809,883 | Rp 63,221,753 | Rp 63,329,290 | Rp 63,145,766 | Rp 158,751,567 | |
| 4. PAJAK PENGHASILAN USAHA (10%) | | Rp 6,322,175 | Rp 6,332,929 | Rp 6,314,577 | Rp 15,875,157 | |
| Net Benefit | -Rp 76,809,883 | Rp 56,899,578 | Rp 56,996,361 | Rp 56,831,189 | Rp 142,876,410 | |
| DISCOUNT FACTOR 6% | 0.943 | 0.890 | 0.840 | 0.792 | 0.747 | |
| NPV / TAHUN | -Rp 72,462,154 | Rp 50,640,422 | Rp 47,855,243 | Rp 45,015,625 | Rp 106,765,565 | |
| PV BENEFIT / TAHUN | Rp 336,182,170 | Rp 352,438,590 | Rp 332,489,236 | Rp 313,669,091 | Rp 296,914,236 | Rp 1,630,693,323 |
| PV COST / TAHUN | Rp 408,644,324 | Rp 296,171,455 | Rp 279,316,743 | Rp 268,651,729 | Rp 177,285,831 | Rp 1,425,070,083 |
| NPV | Rp177,814,701 | | | | | |
| IRR | 75% | | | | | |
| PV POSITIF | Rp 250,276,855 | | | | | |
| PV NEGATIF | -Rp 72,462,154 | | | | | |
| GROSS B/C | 1.1 | | | | | |
| NET B/C | 3.5 | | | | | |
| AKUMULASI NET BENEFIT / TAHU | -Rp 76,809,883 | Rp 56,899,578 | Rp 113,895,938 | Rp 170,727,128 | Rp 313,603,538 | |
| AKUMULASI PV BENEFIT /TAHUN | -Rp 72,462,154 | Rp 50,640,422 | Rp 98,495,665 | Rp 143,511,290 | Rp 250,276,855 | |
| PAYBACK PERIOD | 2 Tahun 3 Bulan | | | | | |

| PAYBACK PERIOD | 2.3 |
|---|---|

Based on the financial analysis, the Practical Plastic Clothes Hanger was deemed feasible.

**Organizational Aspects**

The organizational aspect of Practical Plastic Clothes Hangers uses a functional structure that requires 4 workers. The qualifications are required for an injection molding machine operator, 1 packaging staff member, 1 inspection staff member, and 1 assembly staff member. The researcher has also provided a complete description of all positions, including the identity, functions, duties, authorities, responsibilities, and requirements of each division. The division of working hours has also been established, making the tasks for each workforce clear. Each workforce to be used must meet the requirements determined. Grooming, operational, and sales SOPs have also been established to maintain the company's performance. The workforce will be given a salary/wage. Practical Plastic Clothes Hanger is deemed feasible from an organizational standpoint, as it provides complete information on all positions, including identity, functions, duties, authorities, responsibilities, and requirements for each division.

**Competition/Socio-Economic Aspects**

In terms of competition/socio-economy, Practical Plastic Clothes Hangers compete with Lion Star products. Based on the questionnaire and HoQ results, the Practical Plastic Clothes Hanger product offers superior value compared to competitor products. Based on the researcher's analysis, the Practical Plastic Clothes Hanger offers the advantage of being easy to use: it does not require nails or a drill; place the hook between the top holes of the door. Meanwhile, Lion Star's competitor products require nails or drills to hang them on the wall.

Other Practical Plastic Clothes Hangers Advantages, namely:

a. Does not damage walls
b. Flexible, foldable
c. Strong
d. Durable
e. Minimalist design
f. Diverse colors
g. Doesn't require a lot of space
h. Easy to store
i. Easy to carry
j. Lightweight

Disadvantages of Practical Plastic Clothes Hangers, namely:

a. Not yet have a known brand
b. Prices are more expensive than competitors' products

The advantages of Lion Star Clothes Hanger competitors' products, namely:

a. Known
b. Strong
c. Durable
d. Diverse colors
e. Lightweight
f. More affordable prices

The disadvantages of Lion Star Clothes Hanger competitors, namely:

a. Damaging walls
b. Inflexible
c. Difficult to carry
d. Less attractive design

**Table 2**. The results of the calculation of the average product quality assessment against competitor products for consumer needs and desires

| No | Pernyataan | Gantungan Pakaian Plastik Praktis | Gantungan Pakaian Plastik Lion Star (KOMPETITOR) |
|---|---|---|---|
| 1 | Fleksibel | 4.5 | 3.3 |
| 2 | Aman Digunakan | 4.4 | 3.3 |
| 3 | Kuat | 4.7 | 3.8 |
| 4 | Praktis Digunakan | 4.4 | 3.7 |
| 5 | Warna Bervariasi | 3.8 | 4.3 |
| 6 | Desain Minimalis | 4.2 | 3.3 |
| 7 | Tidak Memerlukan Paku | 4.1 | 2.5 |
| 8 | Bahan Berkualitas Baik | 4.5 | 3.8 |
| 9 | Tidak Memakan Tempat | 4.5 | 3.6 |
| 10 | Tahan Lama | 4.5 | 3.8 |
| 11 | Mudah Dibawa (Portability) | 4.2 | 3.5 |
| 12 | Mudah Disimpan (Storable) | 4.4 | 3.6 |

Based on the analysis of the competitive/socio-economic aspects, it can be concluded that the Practical Plastic Clothes Hanger product is feasible.

**Aspects of SKB Study (AMDAL)**

In production activities, waste products include powder and plastic waste from machining, as well as the remaining raw materials and waste generated by the operator's activities in factory operations. The manufacture of this Practical Plastic Clothes Hanger product uses processed polypropylene (PP) plastic raw materials that are not easily decomposed when discarded and stored in a place. Therefore, companies need to identify the impact of waste and plan its management. However, *polypropylene* (PP) plastic can be used continuously and can be recycled. So, it can be a solution to overcome waste. The analysis of this aspect of AMDAL shows that the company's products do not harm the environment, so product development is feasible.

## Conclusion

This research shows that the product innovation of Practical Plastic Clothes Hanger is *feasible* to implement, as the HOQ index is higher than that of competitor products, such as Lion Star clothes hangers. From In legal perspective, product innovation is deemed feasible because Practical Plastic Clothes Hangers meets all requirements and complies with applicable regulations. In the technical and technological aspects, it is declared feasible because it can meet three criteria, namely (1) the company must have the right location to reach the market. (2) So that the company can determine *the layout* that is in accordance with the selected production process, so that the production process provides efficiency. (3) For the company to determine the right technology for the production process. Furthermore, based on an analysis of market and marketing factors, the Practical Plastic Clothes Hanger business is deemed feasible given market opportunities and the marketing strategies that can be implemented. As a result of the financial analysis, the Practical Plastic Clothes Hanger was declared feasible because the Payback Period (PP) was 2 years and 3 months, while the economic life was 10 years; thus, PP < economic life, indicating feasibility. *The Net Present Value (NPV) of IDR 117,814,701 indicates feasibility*. *The Internal Rate of Return (IRR) is 75%; the interest rate is 6%, so the IRR > 6% is deemed* feasible. The Practical Plastic Clothes Hanger is deemed feasible from an organizational perspective, as it provides complete information on all positions, including identity, functions, duties, authorities, responsibilities, and requirements for each division. Based on the analysis of the competitive/socio-economic aspects, it can be concluded that the Practical Plastic Clothes Hanger product is feasible. The AMDAL analysis results indicate that the company's products do not harm the environment, so product development is feasible. So it can be concluded that the innovation of Practical Plastic Clothes Hangers is feasible to implement, but with the note that it should include its own waste management tools.

In this study, several suggestions are offered in guide further research. In terms of marketing strategy, it must be continually reviewed, improved, and developed to ensure product sales throughout the project's life. Always monitor market developments and the latest technology for manufacturing plastic clothes hangers. The disadvantage of this study, which can serve as a reference for future researchers, is the limited number of respondents; the next researcher can explore the number of respondents to maximize the research results.

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