Determining credit term strategy of textile industry

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Abstract- Textile industry is an industry that produces the yarn into fabric with 100% raw material of synthetic polyester that is recycled. This research is conducted based on the issue in company. The decreasing in sales at retailer sector is the concern of the company. The analysis of the problem is by doing survey marketing mix effect (7P). The result of this survey shows the factors such as products, people, processes, and the price are significant in influencing the buying decision of the products. Components on the pricing strategy that dominance affected is credit policies. For that, the authors propose a strategy in credit term policy. An analysis is conducted with a comparison between the previous policies of the proposed credit policy. The method used is Sartoris-Hill Model referring to the feasibility NPV. This feasibility of this proposal requires working capital amount Rp 11,945,074,622.

1. Introduction

Textile industry is one of the mainstay priority sectors of government Indonesia. However, it had decreasing since 2011. The competition happened between domestic and foreign industry especially because of the globalization trade system[14]. The importance of credit management as it affects the performance of small-scale enterprises

Bandung Textile who also a textile company has been running for 48 years have good performance in total sales during 2011-2013, but for retail sector it has declined, as following below:

| Year   | Uniform | Retail | Total |
|--------|---------|--------|-------|
| 2011   | 2,520   | 3,840  | 6,360 |
| 2012   | 2,352   | 4,140  | 6,492 |
| 2013   | 2,544   | 3,960  | 6,504 |
| 2014   | 2,700   | 3,720  | 6,420 |
| 2015   | 3,480   | 3,624  | 7,104 |

Table 1. Data Local Sales Bandung Textile (‘000 Yard)

One issue of this decreasing came from the competition from foreign product. The free trades that have begun from 2015 give a big opportunity to China and India to sell more their product. In case, they offering longer credit term in their credit sales. Their strategy makes retailer interest and turn to foreign product. They became a loyal customer of them. So, it has a potential to be a threat for company. Marketing mix will help company to determine costumer decision. Pricing strategy is one of the important elements which can trigger customer (retailer) to buy and turnover from the product. The policy in giving credit could give positive effect to company. It boost consumer to catch the opportunity to have the product without have to pay on that current time. The more consumer buy the
product the more volume of product can be sold and it will increase the profitability. In other side, the negative impact to the company is the control of the payment of debt [7].

It is important to plan of [1] credit policy in medium scale business and in other side how to correct the [2] organization of payment operation in order to ensure the stability of funds turnover of business entity, the strengthening of payment discipline and improvement of its financial condition [8]. The Agency theory: offering of trading credit in an asymmetric environment between the suppliers and the customers [9]. The point of concerning is how company designs the strategy to capture the consumer. There will be delay in payment receivables or uncollectible receivables. Furthermore, company must determine the best funding strategy so that the financial capacity can be met and the company’s profitability also increased.

However, changing policy in credit term is not too simple. Company have to measure if the proposed of changing credit term policy will feasible or not for company. Another decision to company for considering, will company have enough capital to do this changing. If they don’t, company should measure how much their funding required. Furthermore, they have to finding the source of funding that appropriate with company required. The source of funding is the more feasible and profitable for company life cycle [10].

2. Method
This figure below is the framework conceptual of this research. It describes the process from determining the issue of the problem that happened. Then it will be analyzed so it could be given the alternative solution. The solution will be measured whether if it feasible and founding the best source that appropriate for the company. Thus, the company could implement the solution.

Marketing mix is a set of controllable marketing variable that the firm blends to produce the response it wants in the target market. It is the set of controllable, tactical marketing tools of product, price, place, promotion, process and physical evidence (7Ps) (Kotler and Keller: 2000)

Hypothesis Development
The hypotheses to be proposed in this study:
H1: There is a significant influencing between all variables including product (X1), price (X2), place (X3), promotion (X4), people (X5), process (X6), and the physical evidence (X7) on buying decisions textile products (Y) simultaneously.

H2: There is a significant influencing partially from each of variable marketing mix such as product (X1), price (X2), place (X3), promotion (X4), people (X5), process (X6) and physical evidence (X7) on buying decisions textile products (Y).

Sartoris- Hill Model based on Arief Sugiono (2009:41) approached Net Present Value (NPV) in analyzing changes in credit policy to be taken. In this method the union held working capital components relating to changes in credit policy with the aim of achieving maximum enterprise value for their owners [11]. The formula of Sartoris-Hill model is like below:

\[
NPV_t = \frac{P_t Q_t (1 - b_t)}{(1 + k)^t} - C_t Q_t - W \left[ P_t Q_t - \frac{P_t Q_t}{(1 + k)^t} \right] 
\]

\[
NPV_0 = \frac{P_0 Q_0 (1 - b_0)}{(1 + k)^0} - C_0 Q_0 - W \left[ P_0 Q_0 - \frac{P_0 Q_0}{(1 + k)^0} \right] 
\]
Explanation:
P = selling price/unit  
C = variable cost/unit  
Q = quantity/ day  
b = percentage of bad credit  
t = period of debt collecting  
k = interest/day  
W = percentage of working capital

3. Result

Respondent Profile

Table 2. Respondent Profile

| Characteristics | Frequency | Percentage (%) |
|-----------------|-----------|---------------|
| Gender          |           |               |
| Male            | 155       | 70%           |
| Female          | 65        | 30%           |
| Age             |           |               |
| 20-30           | 28        | 13%           |
| 31-40           | 55        | 25%           |
| 41-50           | 36        | 16%           |
| 51-60           | 44        | 20%           |
| >61             | 57        | 26%           |

Table 2. shows the characteristic of the customer (respondent) based on key demographic factors. The genders analysis showed that most of the participants were male representing 70% of the sample and 30% were female. These figures indicated that male were dominance in responsible for purchasing textile in the retailer. The age statistic showed that 26% were between >61 years old, it shows that most of the retailers were handle by who are aged and have experience in selling before. Furthermore, from the observation, at their age, most of them still in conventional selling and purchasing.

b. Hypothesis Testing

H1: (N : 220 ; k=8; df1: 7,df2: 212, α = 95%,  Ftable: 2.05)

Table 3. F-Testing

| Model     | df | F     | Sig  |
|-----------|----|-------|------|
| Regression| 7  | 26.183| .000 |
| Residual  | 212|       |      |
| Total     | 219|       |      |

the F count equal to 26.183 and F table of the sample studied was 2.05 (F_{calculation} > F_{table}): H1 accepted).

Table 4. t- Testing

| Coefficientsa |
|---------------|
| Model         | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | Correlations |
|               | B               | Std. Error | Beta |       | Zero- order  | Partial | Part |
| 1 (Constant)  | 3.880           | 2.100      | .324 | 1.847 | .066         |         |      |
| X1            | .309            | .054       | .324 | 5.780 | .000         | .492    | .369 |
| X2            | .247            | .077       | .190 | 3.226 | .001         | .367    | .216 |

3
From the calculation of the table then the regression model obtained as follows:

$$Y = 3.880 + 0.309 \times X_1 + 0.247 \times X_2 + 0.078 \times X_3 + 0.419 \times X_4 - 0.097 \times X_5 + 0.383 \times X_6 - 0.06 \times X_7 + \epsilon$$

In combination, the retail marketing mix elements have a positive effect on the buying decision in some variable such as product ($X_1$, $B=0.309$, $t=5.78$, $p<0.005$), price ($X_2$, $B=0.247$, $t=3.226$, $p<0.005$), promotion ($X_3$, $B=0.078$, $t=1.525$, $p<0.005$), people ($X_4$, $B=0.419$, $t=4.315$, $p<0.005$), process ($X_6$, $B=0.383$, $t=0.116$, $p<0.005$), but negative in place ($X_5$, $B=-0.097$, $t=-1.126$, $p<0.005$), physical evidence ($X_7$, $B=-0.06$, $t=-0.701$, $p<0.005$).

Based on the hypothesis testing, the priority orders of variable marketing mix that influences on buying decision are pricing. From the survey element, it obtained that dominant elements of pricing strategy answer is the policy of payment term of credit. The price is important for them, compare between local and import product (foreign), the local price is cheaper. But the way to pay this is one of concern for them. They prefer the credit offered be more allowance period (time) to pay and the discount which giving them benefit and profit.

**Flow Chain of PT. ABC Product Sales**

PT. ABC sells their product as following stage:

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From figure 3, it shows that retailer is the third customer of PT. ABC. They buy products from sub agent and sell them to consumers in competition with other retailers within the boundaries provided by regulatory from sub agent. Customer (retailer) affected by term of credit on their buying decision. They asked to have longer paying term of credit.

However, in real, PT. ABC has limited control in making sale on credit. They just have authority and coordination until agent. Sub agent, as the one who directly give credit to retailer have responsible to agent. Because of that, PT. ABC in its efforts to increase the volume and profit of the sales should make a change in credit policy to Agent so in the end it may be integrated forwarded to the sub agent and retailer. This figure below will show the business solution in changing policy of credit terms:
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Thus, PT.ABC need to analyze the current credit policy and the policies that are planned using Sartorius-Hill method to find out the one better to run by company. It will be calculated for product A, B, and C.

### Table 5. Credit Policy for Product A

| Current Credit Policy (2/10, n/60) | Proposed Credit Policy (2.5/15, n/90) |
|-----------------------------------|---------------------------------------|
| P0 = Rp 60,000                   | P1 = Rp 60,000                        |
| C0 = Rp 13,500                   | Q1 = increase 5% from current sales   |
| Qd = yard                        | b1 = 3%                               |
| b0 = 2.5%                        | t1 = 90 days                          |
| t0 = 60 days                     | K1 = 8.89%/360 = 0.02%               |
| K0 = 8.89%/360 = 0.02%           | Customer in using discount = 20%     |
| Customer in using discount = 20% |                                       |

Current policy credit

\[
\text{NPV0} = 82,656,617 + 322,904,171 - 95,121,000 = 310,439,789
\]

Proposed policy credit

\[
\text{NPV1} = 172,496,538 + 248,569,230 - 44,394,000 = 376,671,769
\]

Based on NPV calculation, it shows that NPV from proposed bigger than current NPV, which is NPV1 = 376,671,769 > NPV0 = 310,439,789. It means that proposed credit feasible and can be used for company.

### Table 6. Credit Policy for Product B

| Current Credit Policy (2/10, n/60) | Proposed Credit Policy (2.5/15, n/90) |
|-----------------------------------|---------------------------------------|
| P0 = Rp 45,000                   | P1 = Rp 45,000                        |
| C0 = Rp 9,750                    | Q1 = increase 5% from current sales   |
| Q0 = 2,013 yard                  | b1 = 3%                               |
| b0 = 2.5%                        | t1 = 90 days                          |
| t0 = 60 days                     | K1 = 8.89%/360 = 0.02%               |
| K0 = 8.89%/360 = 0.02%           | Customer in using discount = 40%     |
| Customer in using discount = 20% |                                       |

Current policy credit

\[
\text{NPV0} = 17,710,875 + 69,188,841 - 19,626,750 = 67,272,966
\]

Proposed policy credit

\[
\text{NPV1} = 36,963,544 + 53,264,835 - 12,684,000 = 77,544,379
\]

Based on NPV calculation, it shows that NPV from proposed bigger than current NPV, which is NPV1 = 77,544,379 > NPV0 = 67,272,966. It means that proposed credit feasible and can be used for company.
Table 6. Credit Policy for Product C

| Current Credit Policy (2/10, n/60) | Proposed Credit Policy (2.5/15, n/90) |
|-----------------------------------|--------------------------------------|
| • P0 = Rp 30,000                  | • P1 = Rp 30,000                      |
| • C0 = Rp 6,000                   | • Q1 = increase 5% from current sales |
| • Q0 = 1,007 yard                 | • b1 = 3%                             |
| • b0 = 2.5%                       | • t1 = 90 days                        |
| • t0 = 60 days                    | • K1 = 8.89%/360 = 0.02%             |
| • K0 = 8.89%/360 = 0.02%          | • Customer in using discount = 20%    |
| • Customer in using discount = 20%|                                      |

Current policy credit
NPV0 = 5,904,798 + 23,085,861 - 24,160,080
= 4,830,579

Proposed policy credit
NPV1 = 18,188,411 + 26,209,681 - 37,448,000
= 6,950,091

Based on NPV calculation, it shows that NPV from proposed bigger than current NPV, which is NPV1 = 6,950,091 > NPV0 = 4,830,579. It means that proposed credit feasible and can be used for company.

Table 7. The Assumption of Cash Flow Projections

| No | Assumption                        | % from sales |
|----|-----------------------------------|--------------|
|    | Direct Labor and Material Cost    |              |
|    | 1 Direct Labor                    | 25%          |
|    | 2 Raw Material + Supply           | 50%          |
|    | General & Adm. Expenses           |              |
| 3  | Salary                            | 2.5%         |
| 4  | IT, Phone, Internet               | 0.65%        |
| 5  | Company                           |              |
| 6  | Office Equipment                  | 0.55%        |
| 7  | Machine Service/Maintenance       | 2.5%         |
| 8  | Electricity and Water             | 0.8%         |
| 9  | Employee Welfare                  | 0.85%        |
| 10 | Insurance                         | 0.7%         |
| 11 | Overhead                          | 0.75%        |
| 12 | New Model Development             | 0.8%         |
| 13 | Car Service/Maintenance           | 0.25%        |
|    | Marketing Expense                 |              |
| 15 | Container & Transportation        | 2.0%         |
| 16 | Promotion                         | 5%           |

Notes:
1. Tax 25%
2. Retention for growth 10%
3. Depreciation Rp 163,744,268/ year
4. Interest Rate IDR Loan 10%; Deposit 6%
5. Interest expense Rp 1,998,730,739/year
6. Period Account Receivable 90 days
7. Period Account Payable 30 days
For product A, B, C, sales in 2015 302,000 yard/month = 3,624,000 yard/year. A= 70% from sales; B= 20% from sales, and C=10% from sales.

Projection for proposed policy: Increasing 5% from 2015 sales = 317,000 yard/moth= 3,805,200/year

For funding requirement, company needs amount Rp. 11,945,074,622

Financing Structure

| Investment required | Rp. 11,945,074,622 |
|---------------------|---------------------|
| Loan 30%            | 3,583,522,386       |
| Equity 70%          | 8,361,552,235       |

Cost of Debt

| Percentage of Debt | 30% |
|--------------------|-----|
| Loan (Rd)          | 10% |
| Tax                | 25% |

Cost of Equity (CAPM)

| Percentage of Equity | 70%         |
|----------------------|-------------|
| RF: BI rate – country spread | 6.5% - 2.47% = 4.03% |
| B                    | 0.89%       |
| Rm-Rf                | 9.71%       |
| WACC = 8.89 %        |             |

Feasibility Study

|                |            |
|----------------|------------|
| ROI            | 32%        |
| ROE            | 46%        |
| NPV            | 5,958,181,254 |
| IRR            | 27%        |
| PBP            | 2 years 6 months |

From table 9 the change term credit policy by invest Rp. 11,945,074,622 is feasible, because IRR is more than WACC, the NPV, ROI, and ROE is positive then PBP is 2 years 6 months.

4. Conclusion

from the hypothesis testing, the most influences variable marketing mix on buying decision is pricing. It is obtained that the dominant of pricing strategy answer is the policy of payment term of credit. Company current credit term policy is two mot hs (2/10, n/60) and for the proposed strategy become three months (2.5/15, n/90). From feasibility calculation using Sartoris-Hill model, it shows this proposed is feasible. Using Satori-Hill model method, the result for Product A, NPV from proposed bigger than current NPV, NPV1= 376,671,769>NPV0=310,439,789. For Product B, NPV from proposed bigger than current NPV, NPV1= 77,544,379>NPV0=67,272,966. For Product C, NPV from proposed bigger than current NPV, NPV1= 6,950,091>NPV0=4,830,579. In order to conduct this proposed strategy, company require investment amount Rp. 11,945,074,622 which is feasible because the IRR is more than WACC, the NPV, ROI, and ROE is positive then PBP is 2 years 6 months.

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