Analysis of Structure, Conduct and Performance of Fashion Industry in Indonesia

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Abstract

The fashion industry has a good contribution to the Indonesian economy. The Indonesian government responded to this potential by setting a strategic plan to become the center of world muslim fashion. This plan can be achieved by improving the performance of fashion industry. In the SCP paradigm, the performance of an industry is influenced by its market structure and its behavior. The results of regression using the fixed effect model (FEM) show that market share and PMA ratios have a significant and negative effect on PCM variable. The internal efficiency variable has a significant and positive effect on PCM variable. While the productivity variable does not have a significant effect on PCM variable.

Keywords: Fashion, Industry, PCM, SCP

Abstrak

Industri fashion memiliki kontribusi yang baik bagi perekonomian Indonesia. Potensi tersebut direspons oleh Pemerintah Indonesia dengan menyusun rencana strategis untuk menjadi pusat fashion muslim dunia. Rencana ini dapat dicapai dengan meningkatkan kinerja industri fashion. Dalam paradigma SCP, kinerja suatu industri dipengaruhi oleh struktur pasar dan perilakunya. Hasil regresi dengan menggunakan model fixed effect (FEM) menunjukkan bahwa pangsa pasar dan rasio PMA berpengaruh signifikan dan negatif terhadap variabel PCM. Variabel efisiensi internal berpengaruh signifikan dan positif terhadap variabel PCM. Sedangkan variabel produktivitas tidak berpengaruh signifikan terhadap variabel PCM.

Kata Kunci: Mode, Industri, PCM, SCP


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INTRODUCTION

Fashion products namely clothing is one of the primary human needs to protect the human body from external factors. As time and technology develop, clothing has become not only a primary need but also a complement to lifestyle or tertiary needs. Fashion has influences on aspects of human life, based on research by Hadijah (2014) the effects exerted such as lifestyle, means of communication, cultural forms, symbols of social values, economic levels, and status of a person.

The development of fashion trends is becoming faster due to the influence of the internet, social media, the entertainment world, and others. This causes more output to be produced to meet market demand every year. The large amount of output produced by the fashion industry has a good impact on the Indonesian economy. The fashion industry is the second-largest GDP contributor to GDP of the creative economy.

In 2010 fashion industry contributed IDR 91,576.0 billion to the GDP. Then in 2015, it increased to IDR 122,509.2 billion. Besides, the fashion industry is also the largest contributor to exports or 54.54 percent of the total exports of creative industries. In 2010 the export value of the fashion industry amounted to 8,584,325.1 thousand US$ until in 2015 the export value reached 10,895,217.7 thousand US$. Products that have a large export value are the apparel industry (convection) from textiles, then followed by the sports shoe industry and the footwear industry for daily use.

Muslim fashion products are also popular with international markets but do not have a classification code that can explain the exact amount of export value. The creative economy agency responded to it as a potential that needs to be developed. In the strategic plan of the creative economy agency 2015 - 2019, Bekraf has a specific goal in the fashion industry to make Indonesia the centre of Muslim fashion in the world. Efforts that need to be made to achieve these goals are to improve the performance of the fashion industry itself.

Performance is a measure of the success and achievement of an industry, one of the valuation indicators is the level of profit. Siregar and Lubis’s (2015) research and Permana and Hariyanti’s (2016) research used profitability indicators which were reflected by the variable price margin cost (PCM). In the structure, conduct, and performance (SCP) paradigm, performance can be determined by industry policy and structure. Industrial behaviour is a response made by industry to achieve its objectives. Industrial behaviour can be measured by the variable ratio of capital and labor (CLR) and the variable ratio of PMA.

CLR is a measurement of behaviour to determine the technical production used. The production techniques used can be capital-intensive or labor-intensive. According to Fitriyanti (2015), that if an industry tends to be more capital intensive, the higher the production activity it will produce. This means that the total production obtained is more and has the opportunity to get greater profits as well and can improve industrial performance. The PMA ratio is an indicator of the behaviour of non-price strategies, namely technology development research.

The investment that enters Indonesia is also expected to coincide with the entry of technology that can improve industrial performance. The market structure explains how the form of a market in the industry. Data on the
market share magnitude shows that the fashion industry has an oligopoly form of market. The shape of the fashion industry oligopoly market in Indonesia has similarities with the fast fashion industry in China, which is described in the study of Ge et al. (2019). In the structure, conduct, and performance (SCP) paradigm, the industrial structure is also influenced by demand conditions and supply conditions in the market.

The fashion industry faces several problems that exist in the conditions of supply and demand that can hamper the performance of the fashion industry. From the supply side, the fashion industry faces the problem of input of raw materials, most of which still need to be imported, and most of the uptake of the fashion industry’s workforce has a low education level. In terms of demand conditions, a large number of consumers buying imported fashion products is a challenge for the local fashion industry in competing.

Many potentials and contributions made by the fashion industry make this industry interesting to study. Whereas with the still obstacles faced by the fashion industry studies are needed so that the fashion industry can be more competitive. Based on the description above, it is necessary to analyze the structure, conduct, and performance (SCP) for the fashion industry to find out the right policies to improve the performance of the fashion industry.

RESEARCH METHODS

This research uses quantitative data that is measured on a numerical scale (Mudrajad Kuncoro, 2001). The type of used data is secondary data. The sources of data were obtained from the Badan Pusat Statistik (BPS) through the results of annual surveys of manufacturing industry companies in 2011, 2012, 2013, 2014 and 2015. The type of used data is panel data which is a combination of time series data and cross-section data (Gujarati and Porter, 2010). This research uses 12 industrial units (KBLI code 14111, 14112, 14120, 14131, 14132, 14301, 14302, 14303, 15121, 15201, 15202 and 15209) and uses time span of 5 years (from 2011 until 2015).

So, this research has a total of 60 observational data. Market Share (MS) is a percentage of the total sales or output of a sector in the fashion industry. The calculation of market share is formulated as follows MS = (output of sector i)/ (total output of fashion industry). Concentration Ratio (CRn) is a measure that explains the size of the market share’s combination which dependency is realized. The calculation of concentration ratio is formulated in the following equation:

\[ CR_n = \sum_{i=1}^{n} S_i \]  \[ (1) \]

Information :

\( S_i \) = market share
\( n \) = the amount of the biggest firm

Minimum Efficiency Scale (MES) explains the lowest point that can be produced by the industry which can produce the amount of output with a minimal long-run average cost. The calculation of MES is formulated in the following equation:

\[ MES = \frac{\text{The amount of output of the biggest firm}}{\text{Total output of industry}} \times 100\% \]  \[ (2) \]

Capital Labor Ratio (CLR) is a measurement of a ratio of capital share towards
labor share to determine the production techniques. The calculation of CLR is formulated as follows:

\[ CLR = \frac{\text{Share of capital cost}}{\text{Share of labor cost}} \]  

(3)

PMA ratio is the percentage of foreign capital ownership based on the number of companies in the industry. The calculation of the PMA ratio is formulated by the following equation:

\[ \text{PMA Ratio} = \frac{\sum \text{firm with foreign capital ownership}}{\text{Total company of the industry}} \]  

(4)

Price cost margin (PCM) is the difference between market price and marginal cost level of the company. The calculation of PCM is formulated by the following equation:

\[ \text{PCM} = \frac{\text{value added—total wage}}{\text{Total output}} \times 100\% \]  

(5)

Productivity is the value per unit of labor (factor of production) in a certain period time. The calculation is formulated as follows:

\[ \text{Productivity} = \frac{\text{Output}}{\text{Amount of labor}} \]  

(6)

Internal Efficiency (XEF) variable is a measurement of an industry’s capacity to keep the cost at the minimum possible level. The calculation of XEF is formulated by the following equation:

\[ \text{XEF} = \frac{\text{Value added}}{\text{Total input}} \times 100\% \]  

(7)

This research uses descriptive analysis and quantitative analysis methods. The descriptive analysis method is an analysis that explains the characteristics of a data and data overview. Then, the quantitative analysis method used is the panel data regression model. The panel data regression model is a regression model that uses data movement over time and individual units (Gujarati and Porter, 2012).

The variables used in the regression equation are market share, PMA ratios, productivity and internal efficiency. While, concentration ratio, minimum efficiency scale and capital-labor ratio are explained by the description method because there are differences in the scale of the data. The estimation model is explained in the following equation:

\[ \text{PCM} = f (\text{MS}, \text{RPMA}, \text{PROD}, \text{XEF}) \]

Then the estimation model is converted into a regression equation to simplify the estimation. In the regression equation, all variables use natural logarithms to bring the data scale closer to fulfill the econometric criteria. Then the regression equation is obtained as follows:

\[ \ln_{\text{PCM}it} = \beta_0 + \beta_1 \ln_{\text{MS}it} + \beta_2 \ln_{\text{RPMA}it} + \beta_3 \ln_{\text{PROD}it} + \beta_4 \ln_{\text{XEF}it} + \varepsilon \]  

(8)

Information:

\begin{align*}
\text{PCM} & = \text{Price Cost Margin} \\
\text{MS} & = \text{Market Share} \\
\text{RPMA} & = \text{PMA Ratio} \\
\text{Prod} & = \text{Productivity} \\
\text{XEF} & = \text{Internal Efficiency} \\
\beta_0 & = \text{Intercept} \\
\beta & = \text{Slope of each independent variable} \\
\text{i} & = 1, 2, 3, ..., 12 \\
\text{t} & = 1, 2, 3, 4, 5 \ (2011 \text{ until } 2015) \\
\varepsilon & = \text{Error term}
\end{align*}
The initial step of panel data regression is determining the estimation model with the Hausman test. Then, the estimation results of the model will be discussed with several criteria including economic criteria, statistical criteria and econometric criteria. Economic criteria discuss the results of estimates on a theoretical basis. Statistical criteria include statistical testing (t-test and F-test) and the coefficient of determination. Econometrics criteria include normality test, multicollinearity test, heteroscedasticity test and autocorrelation test.

RESULTS AND DISCUSSION

The fashion industry is one of the sub-sectors of the creative industry. Badan Pusat Statistik (2016a) defines the fashion industry as a lifestyle in appearance that reflects self or group identity. Substantially, the fashion industry is divided into 4 scopes, they are product usability, type of process, volume and market segment. The fashion industry produces output products that have added value and selling value. The average output of the fashion industry shows an increase in number.

In 2011, the average value of the fashion industry output was 8,099,556,635 thousand IDR, then in 2015, the average output value became 17,128,697,772 thousand IDR. The amount of output produced also requires a lot of inputs to produce an increase in production. The total value of inputs had an increasing trend, the peak occurred in 2015 reaching 105,970,241,538 thousand IDR and the average input value of the fashion industry reached 8,151,557,041 thousand IDR.

In the input value of the fashion industry, the cost of raw materials is the most expensive cost in production. The cost of raw materials is almost close to the total input costs. Other production factors used by the fashion industry are labor. The structure is a factor that shows the competitive environment between sellers and buyers through the process of forming the price and quantity offered (Jaya, 1993).

![Concentration Ratio of Fashion Industry in Indonesia](image)

**Figure 1.** Concentration Ratio of Fashion Industry in Indonesia

The market structure of the fashion industry is explained by indicators of the number of business actors, market share, concentration ratios and minimum efficiency to scale. The number of business actors affects the structure through market forces by leading companies. The number of fashion industry business actors has had a positive trend for 5 years. In 2011 the number of fashion industry business actors was 2768 firms. Although in 2013 it had decreased to as many as 2628 firms.

Then in 2015, it increased to 2980 firms. The increasing number of business actors entering the market indicates that the fashion industry has increasingly competitive competition. Market share is a factor that indicates the level of market power. In 2013 -
2015, the industry with KBLI code 14111 had a market share of more than 50 percent. Other industries that have a large market share are industries with KBLI codes 15201 and 15202. Although, both industries have fluctuating market share.

Figure 2. MES Value of Fashion Industry in Indonesia

MES is a condition where the addition of output causes a decrease in production costs in the long run. In 2011 the MES value of the fashion industry was 48.87256 percent. MES value has increased until in 2015 its value amounted to 57.97064. This shows an increase in barriers to entry in the fashion industry in Indonesia.

The fashion industry group has a strict oligopoly market structure category because 3 industries control more than 60 percent of the market share. The concentration ratio is a measurement to determine market size and market form. The concentration ratio of the fashion industry is fluctuating and its range value is from 84 percent to 87 percent. The structure of the fashion industry market based on the concentration ratio shows a tight oligopoly market.

Three industries that dominate the fashion industry market share include the apparel industry (convection) from textiles (KBLI code 14111), the footwear industry for daily use (KBLI code 15201) and the sports shoes industry (KBLI code 15202). The minimum efficiency scale (MES) indicator is used to determine the conditions of barriers to entering an industry.

Conduct is a strategy, response and adjustment made by industry to compete and gain profits. Capital labor ratio (CLR) is an indicator to see the behavior of the fashion industry whether it is labor-intensive or capital-intensive. The greater the value of CLR indicates industry has capital-intensive behavior. Otherwise, the smaller the value of the CLR indicates industry has labor-intensive behavior. The CLR value in the fashion industry fluctuates but shows a value that exceeds the number 1.

That means the fashion industry uses a capital share greater than the share for labor expenditure. The data shows that the fashion industry has capital-intensive behavior. The PMA ratio is another indicator to explain the behavior of the fashion industry. The use of foreign capital reflects openness to cooperation
with foreign investors. The greater the value of the PMA ratio indicates the increasing number of companies in the industry that use foreign capital and the greater degree of openness.

The overall average value of the fashion industry PMA from 2011 to 2015 shows a value close to 0. It means that the participation of foreign capital is still low for the Indonesian fashion industry. The capital of the fashion industry is still dominated by capital from domestic investment and others.

**Figure 4.** Average Ratio of PMA in the Fashion Industry in Indonesia

Industrial performance is an idea of the returns achieved by industry. Indicators that measure the performance of the fashion industry include profitability, productivity values and internal efficiency. The level of profitability can be seen through the Price Cost Margin (PCM) indicator. In 2011 the average value of the fashion industry PCM was 0.25. Then in 2015, the PCM value of the fashion industry increased to 0.41. The profitability of the fashion industry has increased by 0.16.

The greater the average value of PCM means the fashion industry has continued to improve performance. Productivity is the value of the results per unit of a factor of production. Calculation of productivity in this research use factor production of labor. In 2011 the productivity value was 115,008.49 IDR per unit of labor, then in 2013 the productivity value of the fashion industry experienced the highest value of 210,547.34 IDR per labor.

**Figure 5.** Average Value of PCM in the Fashion Industry in Indonesia

In 2014 the value of productivity had dropped, but in 2015 the value of productivity had increased to 197,070.5 IDR per worker. The average value of the industry in the fashion industry has increased for 5 years. This means that the greater productivity value indicates that each unit of labor employed produces more output than the previous year.

Internal efficiency is the capacity of an industry to keep costs at a minimum level. Trends in the average value of the internal efficiency of the fashion industry show improvement over the past 5 years. In 2011 the average value of internal efficiency was 0.37, then there was an increase in 2012 to 0.80. The average value of internal efficiency in 2013 decreased to 0.61. But the following year the
value continued to increase, until 2015 it reached 1.11. The greater value of internal efficiency creates a better performance in the fashion industry.

![Figure 6. Average Productivity of Fashion Industry in Indonesia](image)


This section explains the analysis of the relationship between the performance of the fashion industry with its structure and conduct. The aim is to find out what factors influence the performance of the fashion industry. First, the thing to do is to choose a model approach to research through the Hausman test. Hausman test results obtained by calculating the value of chi-square statistics of 15.597483.

Chi-square statistical distribution value in the distribution table with a degree of freedom is k = 4 and a significance level of 0.05 is 9.48773. Chi-square statistical value calculated is greater than the chi-square value in the distribution table (15.597483 > 9.48773). This means that in this research the suitable model to used that is the fixed-effect model (FEM) With the use of the fixed-effect model, the results of the regression are shown in table 1.

![Figure 7. Average Internal Efficiency (XEF) of Fashion Industry in Indonesia](image)


<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-statistics</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ln_MS</td>
<td>-0.071739</td>
<td>-2.193951</td>
<td>sig on α = 0.05</td>
</tr>
<tr>
<td>ln_RPMA</td>
<td>-2.201594</td>
<td>-2.326608</td>
<td>sig on α = 0.05</td>
</tr>
<tr>
<td>ln_PROD</td>
<td>-0.031520</td>
<td>-0.664803</td>
<td>not sig on α = 0.05</td>
</tr>
<tr>
<td>ln_XEF</td>
<td>0.712540</td>
<td>10.63034</td>
<td>sig on α = 0.05</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.840255 \]

F stat 15.42931 sig on α = 0.05

DW stat 2.187234

Source: processed data by Eviews 9, 2020

The regression model uses PCM as a dependent variable, which reflects the profitability and performance of the industry. While the independent variables used are market share (MS), PMA ratio (RPMA), productivity (PROD) and internal efficiency (XEF). The regression results have already fulfilled the econometrics criteria by done a data transformation and gave the cross-section weight on GLS weights.

The partial significance test uses a t-table value of 1.67252. The results showed that the MS and RPMA variables had a negative and significant effect on the PCM variable. The t-
value of the MS variable is greater than the t-table (-2.193951 > 1.67252). Likewise, the RPMA variable, the t-value is greater than the t-table (-2.326608 > 1.67252). The XEF variable has a positive and significant effect on the PCM variable.

The t-value of the XEF variable is greater than the t-table (10.63034 > 1.67252). PROD variable has a negative and not significant effect on the PCM variable because the t-value is smaller than the t-table (-0.664803 < 1.67252). Significance test simultaneously with the f table of 2.77. the f-value is greater than the f-table (15.44231 > 2.77). So, the independent variable influences the dependent variable together. A value of $R^2$ indicates a value of 0.840255.

MS, RPMA, PROD and XEF variables in the regression model were able to explain the PCM variable by 84.02 percent. While the rest of 15.98 percent is explained by other variables not included in the regression model. The output estimation results show that the market share (MS) variable has a negative and significant effect on profitability (PCM). The value of the market share coefficient is -0.071739. If there is an increase in market share of 1 percent then the profitability of the fashion industry will decrease by 0.071739 percent.

This result shows the direction that is not following the hypothesis, the reason is that the market structure of the fashion industry is a tight oligopoly. The form of markets controlled by certain sectors causes profits depend on other business actors in the market. Prices in the tight oligopoly market to depend on behavioral strategies used by other business actors. Then the business actors attract each other market share to obtain greater profits through the selling price. This causes the level of profitability to fall if there is an increase in the value of the market share.

The estimated output shows the PMA ratio (RPMA) variable has a negative and significant effect on profitability (PCM). The coefficient value of the PMA ratio is -2.201594. If an increase in PMA ratio is 1 percent, the profitability of the fashion industry will decrease by 2.201594 percent. The direction of the coefficient value of the PMA ratio variable is not following the hypothesis. The reason is that it is assumed that the entry of foreign investment does not coincide with the entry of good technology, so it does not cause an increase in profits.

PMA ratio is a reflection of non-price behavioral strategies, namely research and development due to the entry of technology. The small number of PMA indicates the large number of PMDN, this is good because it encourages domestic capital. Another reason why the PMA ratio does not cause an increase in profit is due to the market structure of tight oligopoly. A tight oligopoly market that has not too much competition, the behavior used by business actors is the behavior of price competition strategies.

Business actors who dominate the market can influence the price level in the market. Non-price behavioral strategies are also still used in this market, but the main behavior carried out in the competition is price behavior. The estimated output results show that the productivity (PROD) variable has a negative and not significant effect on profitability (PCM). The coefficient of productivity value is -0.031520. The direction of the coefficient of the productivity variable is not following the hypothesis.

The reason is suspected by the productivity value calculated by only one factor
of production namely labor, while the production techniques used by the fashion industry are mostly capital intensive. The estimated output results show that the internal efficiency (XEF) variable has a positive and significant effect on profitability (PCM). The internal efficiency coefficient value is 0.712540. That means, if there is an increase in internal efficiency of 1 percent, then the profitability of the fashion industry will increase by 0.712540 percent. This result is consistent with the hypothesis that internal efficiency affects the PCM variable positively.

CONCLUSION

According to the results of the structure, conduct and performance analysis can be concluded the fashion industry in Indonesia has a strict oligopoly market structure. But, the fashion industry is controlled by certain sectors, not certain companies. The conduct of the fashion industry has a type of capital intensive production technique based on a CLR value of more than 1.

Most of the capital in the fashion industry is still dominated by domestic and other capital with a PMA ratio value close to 0. The performance of the fashion industry within 5 years has increased in terms of profitability, productivity and internal efficiency. The result of econometrics analysis shows that the market share variable, PMA ratio variable and internal efficiency variable significantly affect the price cost margin variable.

However, productivity variable does not significantly affect the price cost margin variable. Market share, PMA ratio and productivity have a negative effect to price cost margin which means those variables did not go in accordance with the theory. While the internal efficiency variable has a positive effect and in accordance with the theory.

REFERENCES


