Determinant Factors of Trade Industry Performance in Indonesia:  
AHP Approach

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ABSTRACT

Objective – This research analyses determinant factors and priority factors of trade industry performance based on 15 industries in Indonesia. Today, trade industry tends to develop well in Indonesia. It covers exporters, importers, modern markets (hypermarket and minimarket), and traditional markets.
Methodology/Technique – This research uses Analytic Hierarchy Process (AHP) to analyse primary data on factors of trade industry performance.
Findings – Research results indicate that there are seven factors on trade industry performance. These are NF (AHP score: 0.37), ICT (0.19), BIT (0.10), BR (0.10), BP (0.09), DC (0.08), and BE (0.07). It means that number of firm becomes the first factor while business efficiency becomes the last factor that drives business performance.
Novelty – This finding can be used by trade industry associations and policy makers to manage and regulate firms involved in commerce. In addition, governments can support ICT development to improve trade industry performance.

Keywords: Determinant Factor; Trade Industry; Business Performance; AHP.
JEL Classification: L11, L25.

1. Introduction

Trade industry development in Indonesia tends to fluctuate. It can be confirmed from the Real Sales Index (RSI) and the Wholesale Price Index (WPI). Based on Bank Indonesia publication (2017), the RSI in January 2017 was 6.3% (yoy), lower than that in December 2016 (10.5%), which was higher than that in November (10.0%). Meanwhile, the WPI in 2016 was higher than that in 2015 with 149.14 and 138.26 respectively, with major support from the agricultural sector (CBS, 2016). WPI and RSI developments indicate that trading business dynamics in Indonesia may change due to seasonal conditions (periods of high demand or national holidays).

Trading business development in Indonesia can be determined by various factors. This factor focuses on the business performance of the trading business. This study will focus on the identification and analysis of the determinants of the trading industry performance in Indonesia. This study selected 15 trade industry associations in Indonesia as a sample. These associations have their head office and regional offices in...
Indonesia. The identification of determinants of competitiveness is expected to become the input for the government to determine the direction of business development, and to become a reference for performance improvement efforts for businesses. The research question is "What are the determinants of the trading industry performance in Indonesia?"

Empirical studies on the performance of the trading industry were conducted by Feinberg (2009); Ruhigga (2011); D'Arcy, Norman and Shan (2012); Lee (2013); Nguimkeu (2013); Sarantopoulos et al. (2013); Seeck, et al. (2014); Vokes and Boehnke (2014); Nwachukwu, et al. (2015); and Hawaldara et al. (2016). In general, performance indicators for wholesale and retail can be determined by regulation, information and communication technology, business efficiency, product pricing, business productivity, business innovation, marketing media, demographics and consumer behavior, infrastructure, business scale, and market share. The findings are the bases for the identification of determinants of trade industry performance in Indonesia. Different approaches are used in this study. That is the Analytic Hierarchy Process (AHP). The results of this study are expected to encourage the improvement of trade business performance in Indonesia.

2. Literature Review

2.1 Trade Industry Regulation

The Indonesian government has set the trade industry from company registration to product distribution with rules including: a) Presidential Decree No. 112 of 2007 on the Management and Development of Traditional Markets, Shopping Centers and Modern Stores; b) Regulation of the Minister of Trade No. 61 / M-DAG / PER / 8/2015 on Guidelines for the Development and Facility Management Trade; c) Regulation of the Minister of Trade No. 14 / M-DAG / PER / 3/2016 on the Issuance of Trade License and Simultaneous Company Registration to the Trade Company; d) Regulation of the Minister of Trade No. 22 / M-DAG / PER / 3/2016 on General Provisions of Goods Distribution; e) Regulation of the Minister of Trade No. 24 / M-DAG / PER / 4/2016 on the Trade Sector Standardization; f) Regulation of the Minister of Trade No. 47 / M-DAG / PER / 6/2016 on Improvement of the Domestic Products Usage; g) Regulation of the Minister of Trade No. 07 / M-DAG / PER / 2/2017 on the Issuance of Trade License; and h) the Regulation of the Minister of Trade No. 08 / M-DAG / PER / 2/2017 on the Implementation of Company Registration.

Each of these regulations regulates trading industry activities. Explanations can be seen in Table 1.
Table 1. Trade Industry Regulations in Indonesia

<table>
<thead>
<tr>
<th>No.</th>
<th>Regulations</th>
<th>Contents</th>
</tr>
</thead>
</table>
| 1   | the Presidential Decree No. 112 of 2007 | • The location of traditional markets, shopping centres, and modern shops refers to the spatial plan.  
• The location of traditional markets, shopping centres, and modern shops should be relevant to the socio-economic conditions of the surrounding community.  
• The traditional markets, shopping centers, and modern shops must provide parking space. |
| 2   | Regulation of the Minister of Trade No. 61 / M-DAG / PER / 8/2015 | • The traditional/public markets consist of four types (A, B, C, and D)  
• The goods distribution centres are classified into provincial and regional distribution centres.  
• The government provides funding for the revitalization of public markets. |
| 3   | Regulation of the Minister of Trade No. 14 / M-DAG / PER / 3/2016 | • The trading companies must have a trading license.  
• The government shall conduct supervision and guidance to trading business actors. |
| 4   | Regulation of the Minister of Trade No. 22 / M-DAG / PER / 3/2016 | • Domestic goods distribution can be made directly and indirectly.  
• Distribution actors include distributors, sub-distributors, agents, sub-agents, wholesale, wholesalers, retailers, and franchises. |
| 5   | Regulation of the Minister of Trade No. 24 / M-DAG / PER / 4/2016 | All traded goods should be nationally standardized (Indonesian National Standard). |
| 6   | Regulation of the Minister of Trade No. 47 / M-DAG / PER / 6/2016 | • Efforts to increase domestic products are done through promotion, socialization, marketing or obligations under applicable laws.  
• The use of domestic products must be at least 80% of the total goods at the retail level. |
| 7   | Regulation of the Minister of Trade No. 07 / M-DAG / PER / 2/2017 | Trading business-licensing document is attached to the companies as long as they are doing business. |
| 8   | the Regulation of the Minister of Trade No. 08 / M-DAG / PER / 2/2017 | Trading companies must be registered, obeyed, and protected under the applicable laws. |

2.2 Determinant Factors of Trade Industry Performance

Empirical studies that can be used as references to identify the determinants of trading industry performance includes Feinberg (2009); Productivity Commission of Australia (2011); D’Arcy, Norman and Shan (2012); Lee (2013); Nguimkeu (2013); Sarantopoulos et al. (2013); Seeck, et. al. (2014); Vokes and Boehnke (2014); Chauve (2015); Bauer (2015); Nwachukwu, et. al. (2015); Hawaldara et al. (2016). In general, performance determining factors includes regulation, information and communications technology, business efficiency, product pricing, business productivity, business innovation, marketing media, demographics and consumer behavior, infrastructure, business scale and market share.

Feinberg (2009) stated that small-scale domestic retails are expected to take advantage of import commodities at low prices. This is a form of business existence strategy to face exchange rate fluctuations. In addition, the Productivity Commission of Australia (2011) suggested that the development of retail businesses can be influenced by consumers’ preferences and ability to pay. Therefore, in the long term, retail is expected to influence consumers’ consumption behaviour through price differentiation, online media use, and non-cash payments.
Ruhigga (2011) found that the role of wholesale-retail sector is not significant to the local economy in rural South Africa. This will require support from the government in the form of human resources’ skill improvement, business innovation, and utilization of information and communication technology. Lee (2013) proved that the efficiency of retail businesses is affected by the quality of labour. This shows that the retail business is expected to encourage workers to have ICT skills and capability. Furthermore, Nguimkeu (2013) noted that the business margin can be determined by regulation, credit constraints, the lack of infrastructure and qualified labour. In addition, business productivity has also become an important part.

Sarantopoulos et al. (2013) indicated that retail performance can be determined by business productivity and efficiency. These two factors may become the main reference in the development of retail business. According Seeck, et. al. (2014) factors that drive the success of retail businesses include staff, ICT, supply chain management, networking and service provider. The desired process on the impact of these factors is the quality of service, flexibility, efficiency, and business innovation. Nwachukwu, et. al. (2015) believed that the scale of business, the ability to access business finance, and market share determine the income gap between rice wholesalers and retailers.

3. Method

This study collected primary data on 15 Indonesian trade associations including importers, exporters, shopping center managers, traditional market associations, industry and trading chambers, and logistics associations through surveys done from February to March 2017.

The data were analysed using qualitative description analysis and Analytic Hierarchy Process (AHP). The qualitative descriptive focuses on the explanation of the determinant factors of trading business performance. AHP concept in this study refers to Saaty (2008). The analysis for determinant factors of trading business performance is shown in Figure 1.

![Figure 1. Determinant Factor of Trading Business Performance in Indonesia](image)

4. Results

The determining factors are analysed using AHP through several stages. These stages include the calculation of Pairwise Comparison matrix, the Normalized eigenvector matrix, Consistency index and ratio, and AHP Score. AHP score is the basis for determining the priority factor in Indonesian trading business performance.
4.1 Pairwise Comparison

The Pairwise Comparison matrix is used to determine the value of the determining factors. The value is derived from the average respondents' answers to these factors. The value also becomes the basis for the calculation of normalized eigenvector matrix.

Table 2. Pairwise Comparison

<table>
<thead>
<tr>
<th></th>
<th>BP</th>
<th>BE</th>
<th>BR</th>
<th>DC</th>
<th>BIT</th>
<th>ICT</th>
<th>NF</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>1.00</td>
<td>0.50</td>
<td>0.79</td>
<td>2.76</td>
<td>0.64</td>
<td>0.45</td>
<td>0.33</td>
</tr>
<tr>
<td>BE</td>
<td>2.02</td>
<td>1.00</td>
<td>0.30</td>
<td>0.60</td>
<td>0.33</td>
<td>0.43</td>
<td>0.24</td>
</tr>
<tr>
<td>BR</td>
<td>1.27</td>
<td>3.31</td>
<td>1.00</td>
<td>0.62</td>
<td>1.03</td>
<td>0.54</td>
<td>0.24</td>
</tr>
<tr>
<td>DC</td>
<td>0.36</td>
<td>1.66</td>
<td>1.61</td>
<td>1.00</td>
<td>0.47</td>
<td>0.31</td>
<td>0.43</td>
</tr>
<tr>
<td>BIT</td>
<td>1.56</td>
<td>3.00</td>
<td>0.97</td>
<td>2.14</td>
<td>1.00</td>
<td>0.22</td>
<td>0.20</td>
</tr>
<tr>
<td>ICT</td>
<td>2.21</td>
<td>2.31</td>
<td>1.86</td>
<td>3.27</td>
<td>4.45</td>
<td>1.00</td>
<td>0.21</td>
</tr>
<tr>
<td>NF</td>
<td>3.02</td>
<td>4.14</td>
<td>4.14</td>
<td>2.33</td>
<td>5.00</td>
<td>4.71</td>
<td>1.00</td>
</tr>
<tr>
<td>Total</td>
<td>11.43</td>
<td>15.92</td>
<td>10.68</td>
<td>12.73</td>
<td>12.93</td>
<td>7.67</td>
<td>2.65</td>
</tr>
</tbody>
</table>

Source: Primary Data (Processed)

Table 2 shows that the value of BIT-NF is the highest value with 5:00. Some pairs also show relatively high values such as ICT-NF (4.71) and BIT-ICT (4:45). These values imply that the respondents believe that these factors become the primary consideration for achieving/improving trade business performance in Indonesia. In the context of the trading business, the performance indicators refer to total sales achievement, operating profit, and market share.

4.2 Normalized Eigenvector and Consistency Ratio

Normalized eigenvector matrix is used to determine the value of the AHP base score. Values in this matrix are obtained by calculating the rank of pairwise comparison matrix values. Eigenvector normalized calculation results are presented in Table 3.

Table 3. Normalized Eigenvector

<table>
<thead>
<tr>
<th></th>
<th>BP</th>
<th>BE</th>
<th>BR</th>
<th>DC</th>
<th>BIT</th>
<th>ICT</th>
<th>NF</th>
<th>Eigenvector</th>
<th>Normalized Eigenvector</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP</td>
<td>602.71</td>
<td>788.37</td>
<td>461.49</td>
<td>658.27</td>
<td>470.16</td>
<td>258.26</td>
<td>132.39</td>
<td>3371.66</td>
<td>0.09</td>
</tr>
<tr>
<td>BP</td>
<td>450.36</td>
<td>607.39</td>
<td>355.13</td>
<td>488.97</td>
<td>354.45</td>
<td>196.00</td>
<td>101.00</td>
<td>2553.30</td>
<td>0.07</td>
</tr>
<tr>
<td>BP</td>
<td>652.96</td>
<td>882.36</td>
<td>528.10</td>
<td>732.35</td>
<td>522.18</td>
<td>288.17</td>
<td>149.96</td>
<td>3756.09</td>
<td>0.10</td>
</tr>
<tr>
<td>BP</td>
<td>548.49</td>
<td>728.33</td>
<td>433.76</td>
<td>618.56</td>
<td>432.58</td>
<td>236.57</td>
<td>123.95</td>
<td>3122.25</td>
<td>0.08</td>
</tr>
<tr>
<td>BP</td>
<td>697.16</td>
<td>932.61</td>
<td>554.61</td>
<td>776.13</td>
<td>559.38</td>
<td>306.65</td>
<td>157.30</td>
<td>3983.85</td>
<td>0.10</td>
</tr>
<tr>
<td>BP</td>
<td>1300.75</td>
<td>1712.55</td>
<td>1021.34</td>
<td>1433.20</td>
<td>1025.37</td>
<td>572.97</td>
<td>293.15</td>
<td>7359.33</td>
<td>0.19</td>
</tr>
<tr>
<td>BP</td>
<td>2499.24</td>
<td>3309.51</td>
<td>1967.44</td>
<td>2751.73</td>
<td>1933.09</td>
<td>1085.16</td>
<td>567.51</td>
<td>14113.67</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Source: Primary Data (Processed)

Table 3 shows the numbers that became the bases of AHP score for each factor with NF and BE becoming the highest and lowest. It implies that the trading business operators in Indonesia put the amount of trading company factors as the most important factor in achieving business performance, and business efficiency as the least. The viewpoint of entrepreneurs in trade associations shows that the domestic market is controlled by many businesses spread throughout Indonesia both at the provincial and district/city levels.
Eigenvector normalized value needs to be confirmed by the consistency index and consistency ratio. It is necessary to ensure that the results of normalized eigenvector can be used as reference of AHP precision certainty. The results of consistency index and consistency ratio for NF and BE are 0:16 and 0:10 respectively. Based on these figures, it can be concluded that the values of the normalized eigenvector seem consistent and can be used for AHP.

4.3 AHP Score

The AHP score is obtained from the normalized eigenvector values, while the weighted value is from the average value of pair wise comparison. Both values are relatively the same, as can be seen in Table 4. This indicates that all procedures were appropriate and the AHP analysis can be used to explain determining factors of trade business performance in Indonesia.

Table 4. Priority Factors of Trade Industry Performance in Indonesia

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Variables</th>
<th>Weighted Value</th>
<th>AHP Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NF</td>
<td>0.35</td>
<td>0.37</td>
</tr>
<tr>
<td>2</td>
<td>ICT</td>
<td>0.19</td>
<td>0.19</td>
</tr>
<tr>
<td>3</td>
<td>BIT</td>
<td>0.11</td>
<td>0.10</td>
</tr>
<tr>
<td>4</td>
<td>BR</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>5</td>
<td>BP</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>6</td>
<td>DC</td>
<td>0.09</td>
<td>0.08</td>
</tr>
<tr>
<td>7</td>
<td>BE</td>
<td>0.07</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Source: Primary Data (Processed)

Table 4 shows the priority determining factors of trading industry performance in Indonesia. The first factor (principal) is the number of businesses (NF) in Indonesia. There are two conditions for this factor: not all trading businesses actively participate in the associations activities and government supervision is not maximized to direct trading business operators to the orientation of the national development plan.

The second factor is the information and communication technology (ICT), which becomes an important part to support the trading business activities. ICT in Indonesia is relatively good time so that efforts to achieve business performance trade can be realized. The third factor is the availability and condition of infrastructure and transport (BIT). Both items are facilitated by the government through the construction of roads, bridges and highways. The transportation facilities such as railways are also feasible to support the trading business activities.

Other factors such as the regulation of the trade sector (BR), the trading business productivity (BP), the distribution channel (DC), and the trading business efficiency (BE) are important, but not a priority because trading businesses are able to manage the business and have a certain market share. In the context of the regulation, the government was gradually been encouraging business progress and establishing good communication with trading business actors.

5. Discussion

Trading business performance in Indonesia is determined by seven factors that become essential references for businesses and governments. The significance of the response from businesses and government facilities in the trading business has been stated by Feinberg (2009); Ruhigga (2011); Sarantopoulos et al. (2013); and Seeck, et. al. (2014). Businesses are expected to be more responsive and more dynamic in facing market changes, while the government to be more dynamic in encouraging and supervising trading businesses.
The determining factor that becomes a priority is NF followed by ICT and BIT showing the real conditions that drive trading business performance in Indonesia. It can be confirmed from the real trade index, which tend to be stable and increasing (BI, 2017). In 2016, the production index and the reservation/purchase index were also relatively increasing (BI, 2016).

The results of this study are expected to drive trading business performance in Indonesia. Various trading business associations such as exporters, importers, manager of shopping centers, chambers of commerce and industry, traditional market traders, logistics and forwarder associations can optimize the business performance of their members. In addition, the use of ICT and infrastructure and transport can improve productivity, business efficiency, and goods distribution.

6. Conclusion

The results of this study confirm the seven determining factors of trading business performance in Indonesia. These factors are the number of trading businesses (NF), information technology and communications (ICT), business infrastructure and transport (BIT), business regulation (BR), business productivity (BP), distribution channel (DC), and business efficiency (BE). These findings may encourage trading businesses and governments to cooperate in achieving and improving trading business performance in Indonesia. In addition, they could work together in the form of policies and strategies for business development and trading system. However, the weakness of this study is it did not conduct an analysis of the financial performance of the trading business. Further research could examine the business performance and financial trading business in Indonesia more deeply.

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References


