The effect of competitive advantage and commodity strategic supply chain on Indonesia textile industry

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ABSTRACT

The aim of the current study is to examine the role of competitive advantage and commodity strategic supply chain in the textile industry of Indonesia. Additionally, the mediating role of export performance was examined to expedite textile industry performance. The moderating role of supply chain top management team support was also investigated. To achieve the objectives, primary data were collected with the help of a questionnaire. Employees of textile companies were selected as the respondents and PLS-SEM was used in this study. Moreover, the preliminary analysis was performed through SPSS. Ten hypotheses were developed to examine the relationships among competitive advantage, commodity strategic supply chain, export performance, supply chain top management team support and textile industry performance. Findings of the study indicate that competitive advantage and commodity strategic supply chain played a valuable role to enhance textile industry performance. Export performance is a mediating variable between competitive advantage and textile industry performance, moreover, it is also a mediating variable between commodity strategic supply chain and textile industry performance. Likewise, supply chain top management team support as a moderating variable enhances the positive impact of competitive advantage on textile industry performance.

1. Introduction

The textile industry is one of the key sectors of every country, particularly those countries having rich agricultural industry. This industry has sufficient contribution on nations' economy. It has vital importance for different nations because it has significant contribution to gross-domestic-product (GDP) (Huang et al. 2017; Sun & Anwar, 2017). An increase in textile industry performance will also increase the share in GDP, which has a positive consequence on the nation’s economy. Most of the countries such as China, Vietnam, Bangladesh, Cambodia, Indonesia, Sri Lanka, Thailand, and India are now focusing on enhancing the growth rate of the textile industry to support their economies. Fig. 1 shows the latest growth rate of various countries from Jan 2018 to Jun 2018. From these estimations, it is revealed that the textile industry of China is leading as compared to other countries. The growth rate of China textile industry is approximately 48.3%, followed by Vietnam with 15.1% growth rate.
Moreover, Bangladesh has 6.9% growth rate follows by 6.8% in Cambodia. However, Indonesia has low performance as compared with these countries. Indonesia textile industry has a low growth rate of only 4.8% during the first half of 2018. This low growth rate has a negative effect on overall performance and decreases the contribution in GDP.

![Fig. 1. Comparison of growth rate in the textile industry (Jan 2018-Jun 2018)](image)

Source: Hong Kong Trade Statistics, Census and Statistics Department

However, low performance in growth rate can be increased with the help of various supply chain strategies and competitive advantage. Better commodity strategic supply chain activities always have a positive impact on performance of business. According to Castorena et al. (2014), supply chain has significant influence on business performance. Moreover, Chan et al. (2017) found a positive contribution of supply chain in firm performance in fashion industry. Furthermore, the competitive advantage also has a significant association with performance (Flynn et al., 1995). An increase in competitive advantage also increases the performance, as stated by Davis et al. (2000). Therefore, both competitive advantage and commodity strategic supply chain activities have the ability to enhance textile industry performance (Samad, 2018; Kadhim et al., 2018).

Apart from commodity strategic supply chain activities and competitive advantage, export performance and supply chain top management team support also have an important role for performance improvement. According to Katsikeas et al. (2000), export performance has an important link with business performance. Furthermore, the role of management team support cannot be neglected. It encourages the employees for innovation and brings new ideas. It is evident from the literature that top management team support increases the performance (Lubatkin et al., 2006; Duru & Chibo, 2014; Jaya & Verawaty 2015; Angbre, 2016; Tanoos, 2017; Kimengsi & Gwan, 2017; Wireko-Manu & Amamoo, 2017; Dahash & Al-Dirawi, 2018). Therefore, export performance and top management play a key role to enhance textile industry performance.

In this study, export performance is taken as a mediating variable and supply chain top management team support taken as moderating variable as shown in Fig. 2. Therefore, the objectives of the study are listed below;

1. To examine the effect of commodity strategic supply chain and competitive advantage on textile industry performance,
2. To examine the mediating role of export performance,
3. To examine the moderating role of supply chain top management team support.
2. Hypotheses Development

2.1 Competitive Advantage and Performance

A firm can have competitive advantage with the help of its contribution towards employees and customers, it makes more incentive for customers as compared with competitive firms. There are two unmistakable sorts of competitive advantage, including the cost advantage and the predictable distinction (Bharadwaj et al., 1993; Da Rocha & Christensen, 1994). The phenomenon of competitive advantage shows the level of acknowledgment of the competitive strategy sought by the firm (Li & Dant, 1999; Purnama, 2014; Castorena et.al., 2014; Solomon et.al., 2014; Dim & Ezeabasili, 2015; Nze et al., 2016; Chowdhury et al., 2018), which ultimately could have a relationship with performance. While an advantage in cost shows the firm's deliberate endeavors to build productivity, it could be an advantage related to differentiation communicated through all perspectives of the products and the services (Piercy et al., 1998). In the intense competitive conditions of the present environment, many firms may never depend on a single sort of advantage. Rather, they should endeavor to accomplish and keep up a sound competitive advantage (Treacy & Wiersema, 1993; Wang & Lu, 2016; Nazal, 2017; Taqi et al., 2018) to boost their performance. Multiple competitive advantages could be more beneficial to enhance performance. Various studies have described that competitive advantage has a relationship with performance (Newbert, 2008; Porter et al., 1974; Porter, 2011; Li et al., 2006).

H₁: There is a relationship between competitive advantage and textile industry performance.

2.2 Commodity Strategic Supply Chain and Performance

In spite of the fact that coordination to encourage the accomplishment of predominant growth has been a focal point of research activities (Lambert, 2008; Lambert et al., 1978), there is also a trend towards a more strategic way of dealing with business procedure arrangement. Many believe that strategic
activities across the boundaries of organizations are another new frontiers for competitive achievement. Under this specific situation, Frohlich and Westbrook (2001) focused on strategic supply chain and revealed that it has a significant influence on performance.

Strategic supply chain refers to a wide range of issues and comprise numerous types of various decision-making activities regarding various problems that impact the long-term growth and processes of a company, namely; the determination of total number, location, warehouses volume and manufacturing plants as well as the flow of material with the help of different logistics network, policies related to the inventory management, contracts with respect to supply, strategies related to distribution, procurement strategies and supply chain integration, outsourcing, product design, and information technology (Georgiadis et al., 2005). Commodity strategic supply chain management helps to resolve different issues and increases the overall performance. According to Cordón et al. (2013), strategic supply chain has a noteworthy relationship with the performance of any industry. It provides various strategies in decision making, products and services which increases the performance by creating innovation in supply chain procedures. Strategies in supply chain increase the valuable services and the whole distribution process, which influences on performance by satisfying the customers (Cohen & Roussel, 2005). Different studies such as Bechtel and Jayaram (1997) and Dyer et al. (1998) support the argument that strategic supply chain has a significant relationship with performance.

**H2:** There is a relationship between commodity strategic supply chain and textile industry performance.

### 2.3 Export Performance

There are numerous forces that may influence the overall performance, for example, organizational culture, capacities, and skills, the status of the export as well as product related differentiation. While it is difficult to investigate everyone, thus, this study considered vital force, namely; the firm's export performance. The firms exporting indicates how much organizational assets are distributed in exporting practices. This study has chosen the firm's exporting since the strategic choice may aid asset distribution to export systems. The firm's promise to a specific course may upgrade staff feelings of dependability and obligation to the firm (Wiener & Vardi, 1980). An increase in the firm’s commitment to export may influence on total exports, which increases the performance. (Etzioni, 1975). Thus, in case the firm exhibits a solid promise for exporting, administrators might be well-suited to work harder on request, for example, marketing strategy adjustment. The less dedicated managers may have a tendency to contribute less (Angle & Perry, 1981), and hence may wish to actualize institutionalized methodologies which are substantially more straightforward to execute and needs less amount of efforts.

International research recommends more dedicated firms designate more assets to the exporting movement (Aaby & Slater, 1989). These additional human and budgetary assets empower organizations to enhance the profundity of arranging systems that would enable supervisors to execute marketing procedures adjusted to the necessities of various markets (Cavusgil & Zou, 1994). In total, as expanding stages of assets are focused on the exporting adventure, the company is in an improved position to enhance its arranging methods and to actualize more versatile procedures. Various studies have found that expert performance has a significant relationship with performance (Cavusgil & Zou, 1994; Kaynak & Kuan, 1993). By applying this reason to our examination, we suggest the hypothesis:

**H3:** Export performance mediates the relationship between competitive advantage and textile industry performance.

**H4:** Export performance mediates the relationship between commodity strategic supply chain and textile industry performance.

### 2.4 Supply Chain Top Management Team Support

According to Hambrick et al. (2015) and Armstrong and Sambamurthy (1999), management team is a group who is responsible for important executives like Chief Financial Officer (CFO) and Chief Operating Officer (COO) that have complete responsibility for the company. Literature gives the
indication that support from top management is the key to the fruitful innovation of products as well as services (Maidique & Zirger, 1984) and successful implementation of information systems (Liang et al., 2007) which enhances the performance. Past literature has revealed that the extent of the best management supports information system plays a vital role in company activities (Yao et al., 2007). Top management through their positions of authority guarantee adequate assets apportioned to information technology and support their employees (Lucas, 1981). As already discoursed, top management is viewed as a two-stage process (Lee et al., 2014) which has an influence on the performance of employees and automatically improvement in overall performance. Various studies indicate that top management team support has an important impact on company growth (Yigitbasioglu, 2015). Therefore, supply chain top management team support has a connection with performance through competitive advantage and supply chain activities.

**H5:** There is a relationship between supply chain supply chain top management team support and textile industry performance.

**H6:** Supply chain top management team support moderates the relationship between competitive advantage and textile industry performance.

**H7:** Supply chain supply chain top management team support moderates the relationship between commodity strategic supply chain and textile industry performance.

Additionally,

**H8:** There is a relationship between competitive advantage and export performance.

**H9:** There is a relationship between commodity strategic supply chain and export performance.

**H10:** There is a relationship between export performance and textile industry performance.

3. Methodology

3.1 Data collection and sample

The sample for the current study comprised Indonesia textile firms. The sample was included all the textile companies of Indonesia. The managerial employees were the respondents of this study. The survey was managed online in May 2018. A link was sent with survey and a letter presenting the researcher as well as the research objectives. It was insured that the responses will be kept confidential. Three reminders were sent to the respondents in different period of time. All the email addresses were collected from the head offices of Indonesia textile companies. Three hundred (300) questionnaires were used to collect the responses. From a total of three hundred (300) survey questionnaires, only one hundred and forty (140) valid responses were returned. According to Sekaran (2003), in the case of an email survey, this response rate is sufficient. Therefore, the analysis was conducted by using one hundred and forty (140) response rate is suitable to analyze the data for further results. After data collection, response bias was examined, and no big difference was found between early responses and late responses. Therefore, it proceeded for further analysis.

3.2 Questionnaires Development

The existing questionnaires were developed through previous studies and all the measures were adapted. A five-point Likert scale was used, and it was designed through five sections. Independent variable, moderating variable, mediating variable and dependent variables were settled in separate sections. Each section includes the concerted variable research items. However, the first section was based on the profile of respondents.
4. Analysis

The study followed Henseler et al.’s (2009) recommendations to analyze the data by using partial least square (PLS) software. According to Henseler et al. (2009), it consists of different steps as shown in Fig. 3. All these steps are compiled by Hameed et al. (2018) in Fig. 3. It majorly comprises of measurement model and structural model.

Fig. 3. PLS-SEM steps
Source: Hameed et al. (2018)

The measurement model is shown in Fig. 4 and it is clear that factor loading is above 0.7, composite reliability is above 0.7 and average variance extracted (AVE) is also above 0.5 (Hair, 2010; Hair Jr et al., 2016). Additionally, before measurement model, missing values treatment was performed. Moreover, it was found that the distribution of data is normal. In this research convergent validity was achieved with the help of AVE. According to Hair et al. (2014), AVE value should be above 0.5 to attain convergent validity. Table 2 and Fig. 5 show that the AVE is above 0.5. Moreover, the square root of AVE is considered by analysing discriminant validity as shown in Table 3.

Fig. 4. Factor Loadings
### Table 1
Outer loadings

<table>
<thead>
<tr>
<th></th>
<th>CA</th>
<th>CSSC</th>
<th>EP</th>
<th>SCTMTS</th>
<th>TIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA1</td>
<td>0.926</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA2</td>
<td>0.922</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA3</td>
<td>0.917</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CA4</td>
<td>0.914</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA5</td>
<td>0.944</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>CSSC1</td>
<td>0.891</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CSSC2</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSSC3</td>
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<tr>
<td>CSSC4</td>
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<td>CSSC5</td>
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<td>EP4</td>
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<tr>
<td>EP5</td>
<td>0.94</td>
<td></td>
<td></td>
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<tr>
<td>SCTMTS1</td>
<td>0.731</td>
<td></td>
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<td>SCTMTS3</td>
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<td>SCTMTS4</td>
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<td>SCTMTS5</td>
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<td>TIP1</td>
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<td></td>
<td>0.887</td>
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<td>TIP2</td>
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<td>0.871</td>
</tr>
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<td>0.861</td>
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<td>TIP6</td>
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<td>0.927</td>
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### Table 2
Reliability and Validity

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<tr>
<th></th>
<th>α</th>
<th>rho A</th>
<th>CR</th>
<th>(AVE)</th>
</tr>
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<tbody>
<tr>
<td>CA</td>
<td>0.958</td>
<td>0.958</td>
<td>0.967</td>
<td>0.855</td>
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<td>CSSC</td>
<td>0.953</td>
<td>0.955</td>
<td>0.964</td>
<td>0.842</td>
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<tr>
<td>EP</td>
<td>0.948</td>
<td>0.95</td>
<td>0.96</td>
<td>0.829</td>
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<tr>
<td>SCTMTS</td>
<td>0.885</td>
<td>0.901</td>
<td>0.922</td>
<td>0.748</td>
</tr>
<tr>
<td>TIP</td>
<td>0.93</td>
<td>0.931</td>
<td>0.947</td>
<td>0.781</td>
</tr>
</tbody>
</table>

### Table 3
Discriminant validity

<table>
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<th>CSSC</th>
<th>EP</th>
<th>SCTMTS</th>
<th>TIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA</td>
<td>0.925</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CSSC</td>
<td>0.912</td>
<td>0.918</td>
<td></td>
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<tr>
<td>EP</td>
<td>0.818</td>
<td>0.828</td>
<td>0.911</td>
<td></td>
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<tr>
<td>SCTMTS</td>
<td>0.806</td>
<td>0.788</td>
<td>0.813</td>
<td>0.865</td>
<td></td>
</tr>
<tr>
<td>TIP</td>
<td>0.771</td>
<td>0.734</td>
<td>0.782</td>
<td>0.716</td>
<td>0.884</td>
</tr>
</tbody>
</table>

![Average Variance Extracted (AVE)](image1)

**Fig. 5.** Convergent Validity through AVE

![Structural Model](image2)

**Fig. 6.** Structural Model
After the confirmation of preliminary requirements of PLS-SEM, a structural model was considered to examine the relationship between dependent and independent variables, moderating variable and mediating variable. While analyzing the data, it was revealed that all relationships had significant t-value above 1.96 (excluding moderating and mediating effect). All the relationships show positive beta value which is the evidence of direct relationship among variables. All the relationships are shown in Fig. 6. Results are shown in Table 4. Results supported the hypotheses H1, H2, H5, H8, H9, and H10.

Table 4
Hypotheses results

<table>
<thead>
<tr>
<th>(O)</th>
<th>(M)</th>
<th>(STDEV)</th>
<th>T Statistics</th>
<th>P Values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA → EP</td>
<td>0.482</td>
<td>0.479</td>
<td>0.102</td>
<td>4.714</td>
<td>0.000</td>
</tr>
<tr>
<td>CA → TIP</td>
<td>0.082</td>
<td>0.091</td>
<td>0.031</td>
<td>2.656</td>
<td>0.008</td>
</tr>
<tr>
<td>CSSC → EP</td>
<td>0.488</td>
<td>0.492</td>
<td>0.101</td>
<td>4.829</td>
<td>0.000</td>
</tr>
<tr>
<td>CSSC → TIP</td>
<td>0.169</td>
<td>0.152</td>
<td>0.068</td>
<td>2.422</td>
<td>0.009</td>
</tr>
<tr>
<td>EP → TIP</td>
<td>0.187</td>
<td>0.190</td>
<td>0.043</td>
<td>4.324</td>
<td>0.000</td>
</tr>
<tr>
<td>SCTMTS → TIP</td>
<td>0.830</td>
<td>0.804</td>
<td>0.101</td>
<td>8.245</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Moreover, H3 and H4 are related to the mediating role of export performance. It was found that export performance was a mediating variable between competitive advantage and textile industry performance. It is also clear that it is mediating variable between strategic supply chain and textile industry performance. The results are supported for H3 and H4. As shown in Table 5. Moderation effects are also shown in Table 6. Moderation results are supported for H6 but not supported for H7.

Table 5
Mediation results

<table>
<thead>
<tr>
<th>(O)</th>
<th>(M)</th>
<th>(STDEV)</th>
<th>T Statistics</th>
<th>P Values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA → EP → TIP</td>
<td>0.19</td>
<td>0.18</td>
<td>0.076</td>
<td>2.499</td>
<td>0.027</td>
</tr>
<tr>
<td>CSSC → EP → TIP</td>
<td>0.292</td>
<td>0.291</td>
<td>0.068</td>
<td>4.291</td>
<td>0.000</td>
</tr>
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Table 6
Moderation results

<table>
<thead>
<tr>
<th>(O)</th>
<th>(M)</th>
<th>(STDEV)</th>
<th>T Statistics</th>
<th>P Values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA × SCTMTS → TIP</td>
<td>0.258</td>
<td>0.256</td>
<td>0.061</td>
<td>4.222</td>
<td>0.000</td>
</tr>
<tr>
<td>CSSC × SCTMTS → TIP</td>
<td>0.099</td>
<td>0.091</td>
<td>0.068</td>
<td>1.401</td>
<td>0.156</td>
</tr>
</tbody>
</table>

The value of R² is shown in Table 7, which indicates that all the variables, namely; competitive advantage, commodity strategic supply chain, export performance, supply chain top management team support are expected to bring 84.6% changes in textile industry performance.

Table 7
The results of R²

<table>
<thead>
<tr>
<th>Textile industry performance</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.846</td>
</tr>
</tbody>
</table>

5. Study Findings

Findings of the study have shown that competitive advantage played the key role for enhancing the textile industry performance. In our survey, an increase in competitive advantage expedites the performance of the textile industry in Indonesia. Moreover, commodity strategic supply chain also
yields the same results. In our survey, both competitive advantage and commodity strategic supply chain have a positive relationship with the textile industry performance. In case of mediation results of export performance, it is driven that export performance is a mediating variable between competitive advantage and textile industry performance with $t$-value and beta value of 2.499 and 0.19, respectively. Moreover, it is revealed that export performance is a mediating variable between commodity strategic supply chain and textile industry performance with $t$-value and beta value of 4.291 and 0.292, respectively. Moreover, export performance enhances the overall performance of the textile industry in Indonesia. Furthermore, for the case of moderation effect of supply chain, top management team support plays a mediation role between competitive advantage and textile industry performance as is shown in Fig. 7.

![Graph showing the moderation effect of supply chain top management team support](image)

**Fig. 7.** Moderation effect of supply chain top management team support

However, moderation effect of supply chain top management team supports the relationship between commodity strategic supply chain and textile industry performance as shown in Table 6.

### 6. Conclusion

The study has focused on Indonesian Textile industry to examine the relationship between the competitive advantage and the commodity strategic supply chain with the mediating role of export performance and the moderating role of supply chain top management team support. Textile industry employees were selected as the respondents. Competitive advantage and commodity strategic supply chain have indicated a valuable role to enhance textile industry performance. Better competitive advantage and strategic supply chain enhance the export performance which ultimately increases the overall performance. Supply chain activities always show a significant effect on export performance. Moreover, it has found the effect of the supply chain on management team also has a crucial role to gain competitive advantage. Better qualities of supply chain related top management expedite the industry performance. Therefore, this study is helpful for Indonesian textile companies to enhance their performance through competitive advantage, supply chain strategies. Additionally, top management should support employees to generate new ideas to gain a competitive advantage.

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to procurement of public construction projects in Nigeria. *International Journal of Management and 
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