THE IMPACT OF ORGANIZATIONAL AND CONTEXTUAL FACTORS ON SUPPLY CHAIN COLLABORATION AND COMPETITIVE ADVANTAGE IN THE GARMENT INDUSTRY: A CONCEPTUAL FRAMEWORK

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ABSTRACT
Although supply chain collaboration is deemed to play a crucial role in the success of the garment industry, research on this topic is scarce. This paper, therefore, presents a conceptual framework to investigate how organizational and contextual factors affect supply chain collaboration as well as its impact on the firm competitive advantage in the garment industry. Underpinned by the institutional, resource-based view and relational view theories, the conceptual framework is developed from a comprehensive review of the related literature, together with hypotheses. The proposed framework is expected to enrich the literature on supply chain collaboration in a new research context. Specifically, this research is novel as it is perhaps one of the first studies which investigate the role of organizational and contextual factors as potential antecedents of supply chain collaboration in the garment industry. Future empirical validation of the framework will be conducted in the context of Vietnam as a developing country.

Keywords: supply chain collaboration, antecedents, competitive advantage, garment industry, Vietnam.

1. INTRODUCTION
During the past decade, collaboration has become one of the most attractive topics in supply chain management research. Many studies in the literature have focused on the performance implications of supply chain collaboration. It is well-known that collaboration can facilitate faster new product development, better quality, reduce product and supply chain costs, and improve customer service (Fawcett et al., 2012). Unfortunately, relatively few companies have achieved genuine collaboration with their business partners to obtain expected performance because this practice is influenced by many factors (Ho et al., 2017). Besides, it was revealed in an international study employing data from New Zealand, Thailand, and the UK that the majority of the organizations studied are struggling to turn the supply chain integration concept, which
encompasses supply chain collaboration, into reality, and that supply chains on average are poorly integrated (Childerhouse et al., 2011).

Recognizing the vital role of the antecedents of supply chain collaboration, an increasing number of studies have been focusing on this topic. From the literature review, there are four primary groups of antecedents of supply chain collaboration: technical, relational, organizational, and contextual characteristics. Research to explore new antecedents has been conducted in recent years and is still not yet matured (Wang et al., 2018; Zhang et al., 2019). In researching these antecedents, previous studies emphasized the role of technical and relational factors but simplified or ignored the effect of organizational and contextual antecedents (Wu et al., 2014; Luu, 2015). In addition, the organizational and contextual groups of antecedents vary depending on specific contexts, regional culture, and industrial sectors.

In this connection, it has been widely acknowledged that the garment industry possesses one of the longest, most fragmented supply chains in the world since many intermediaries exist between fiber producers and consumers (Jakhar, 2015; Lopez-Acevedo et al., 2016). It is characterized by a short product life cycle, high demand uncertainty, and a high level of inventory (Jakhar, 2015). Therefore, supply chain collaboration among these players is deemed to play a crucial role in the success of this industry.

Nevertheless, there have been so far only three studies that investigated the issues of supply chain collaboration in the garment and textile industry. Specifically, Ramanathan et al. (2014) examined the effect of collaborative planning, collaborative decision making, and collaborative execution on the success of the collaboration of the downstream side including wholesalers, distributors, retailers, and customers of the manufacturing firms in India. Similarly, Vanathi et al. (2014) investigated the relationship between supply chain collaboration and the competitive advantage of the Indian textile industry. However, the antecedents of collaboration were not mentioned in these studies. Recently, Ho et al. (2017) conducted an in-depth case study that examined the relationship between the antecedents, supply chain collaboration, and outcomes in the textile and apparel industry in Vietnam. However, the research is limited since the organizational and contextual factors were uncovered. As such, exploratory and explanatory research of organizational and contextual factors affecting supply chain collaboration and its outcome for the garment industry with empirical validation is still in need.

According to the World Trade Organization (2020), four out of five leading clothing exporters in the world were from the Asia Pacific region (China, Bangladesh, Vietnam, and India), in which Vietnam has been ranked 4th in the world. In this respect, the garment industry plays a crucial role in developing the wealth of Vietnam. With the annual growth rate at 17%, this sector contributes about 15% to the national gross domestic product (GDP). The textile and garment companies in Vietnam employed more than 2.5 million people, accounting for 25% of labour in the manufacturing sectors (Vu et al., 2016). However, most Vietnamese companies are only participating in the production stage which is the lowest value-added process in the apparel commodity chain with a high unit cost (Lopez-Acevedo et al., 2016). It was analyzed that 65% of Vietnamese garment companies are involved in “cut-make-trim” and 25% of these firms employed the FOB (Free on Board) Incoterm (Le, 2017). In those manufacturing and export practices, the garment manufacturers took responsibility for procuring input materials, providing all production activities, and packaging for delivery (Frederick et al., 2011), and therefore the contribution to the whole value chain is not that high.

Meanwhile, the input materials for Vietnam’s garment industry rely densely on imports, mainly from China, Taiwan, and Korea. In 2018, Vietnamese garment companies exported to three main markets: the USA, EU, and Japan accounting for 47%, 15%, and 12% of the total value of
export, respectively (Bui, 2019). Therefore, a close collaboration with suppliers and customers is proposed as a solution to the success of the garment industry in Vietnam (Pham et al., 2020; Trang, 2020).

For these reasons, research which examines the role of organizational and contextual factors as antecedents of supply chain collaboration and its effect on a firm’s competitive advantage is important. Such research would be a significant contribution to enrich the literature on supply chain collaboration while also provides practitioners with policy and management implications.

Given the aforesaid background, this paper proposes the conceptual framework to answer two research questions, namely, (1) “How do organizational and contextual factors affect the supply chain collaboration in the garment industry in developing countries?” and (2) “How does supply chain collaboration affect firm’s competitive advantage in the garment industry in developing countries?”

The remainder of the paper is presented as follows. The next section presents a review of related literature. This is followed by a conceptual framework and hypothesis development. Then, the paper concludes with the summary, implications as well as future research directions.

2. LITERATURE REVIEW

In this section, the review of previous literature on supply chain collaboration, its antecedents, and the firm’s competitive advantage is presented. The literature review provided the theoretical foundation for this investigation.

2.1 Supply chain collaboration

There are various definitions of collaboration found in the domain of supply chain research. It is defined as the inter-organizational processes among and between supply chain participants (Cao et al., 2011). However, the term “collaboration” used by Kumar et al. (2014) mainly focuses on mutually sharing processes, resources, and goals between functions in the firms or between various organizations.

In the supply chain discipline, the terms of “partnership”, “coordination”, “cooperation”, “collaboration”, and “integration” are often used interchangeably (Arshinder et al., 2008). Later, it is argued that “collaboration goes beyond integration by including long-term commitments to technology sharing and closely integrated planning and control systems” (Harrison et al., 2014).

Previous studies have analyzed supply chain collaboration in different ways by focusing on activities or dimensions. Based on activities involved in the relationship, there are four main mechanisms for collaboration commonly considered in prior studies: information sharing, goal congruence, decision synchronization, and incentive alignment. In terms of dimensions, supply chain collaboration consists of internal and external tasks. A summary of supply chain collaboration practices is shown in Table 1.

<table>
<thead>
<tr>
<th>Category</th>
<th>Practices</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on activities</td>
<td>Information sharing</td>
<td>(Scholten et al., 2015; Liao et al., 2017; Pradabwong et al., 2017; Nguyen, 2018; Zhang et al., 2018)</td>
</tr>
<tr>
<td></td>
<td>Goal congruence</td>
<td>(Kumar et al., 2014; Pradabwong et al., 2017; Nguyen, 2018; Zhang et al., 2018)</td>
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<tr>
<td></td>
<td>Decision synchronization</td>
<td>(Kumar et al., 2014; Scholten et al., 2015; Liao et al., 2017; Pradabwong et al., 2017; Nguyen, 2018; Zhang et al., 2018)</td>
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</table>
2.2 Antecedents of supply chain collaboration

The antecedents of supply chain collaboration are “the factors that facilitate or impede the implementation of supply chain activities” (Lee et al., 2010). There is a large number of factors affecting supply chain collaboration. In the current research, the antecedents of supply chain collaboration are categorized into technical, relational, contextual, and organizational factors as synthesized in Table 2.

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Antecedents</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical factor</td>
<td>The entities that can be measured</td>
<td>Information technology usage</td>
<td>(Chen et al., 2014; Zhang et al., 2018)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IT infrastructure flexibility</td>
<td>(Cao, 2013; Yuen et al., 2017)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resources</td>
<td>(Yuen et al., 2017)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supply chain mapping and role definition</td>
<td>(Fawcett et al., 2008)</td>
</tr>
<tr>
<td>Relational factor</td>
<td>The mutual understanding and dependence between business partners</td>
<td>Trust</td>
<td>(Chen et al., 2014; Tsanos et al., 2014; Wu et al., 2014; Wang et al., 2016; Huynh, 2017; Yuen et al., 2017)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Commitment</td>
<td>(Chen et al., 2014; Tsanos et al., 2014; Wang et al., 2014; Zhang et al., 2018)</td>
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<tr>
<td></td>
<td></td>
<td>Interdependence</td>
<td>(Lee et al., 2010; Huynh, 2017)</td>
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<td></td>
<td></td>
<td>Cultural similarity</td>
<td>(Lee et al., 2010)</td>
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<tr>
<td></td>
<td></td>
<td>Power</td>
<td>(Wu et al., 2014; Luu, 2015; Wang et al., 2016; Huynh, 2017; Zhang et al., 2018)</td>
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<tr>
<td></td>
<td></td>
<td>Supply chain partner insight</td>
<td>(Hartmann et al., 2011)</td>
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<tr>
<td></td>
<td></td>
<td>Personal relationships</td>
<td>(Wang et al., 2016)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Length of relationship</td>
<td>(Lee et al., 2010)</td>
</tr>
<tr>
<td>Contextual factor</td>
<td>The aspects of business situations or environment</td>
<td>Technological uncertainty</td>
<td>(Lee et al., 2010; Boon-itt et al., 2011; Chen et al., 2014; Srivastava et al., 2015)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demand uncertainty</td>
<td>(Boon-itt et al., 2011; Chen et al., 2014; Srivastava et al., 2015)</td>
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<tr>
<td></td>
<td></td>
<td>Supply uncertainty</td>
<td>(Chen et al., 2014)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Government support</td>
<td>(Huynh, 2017)</td>
</tr>
<tr>
<td>Organizational factor</td>
<td>The characteristics of a firm</td>
<td>Willingness to innovate and change</td>
<td>(Yuen et al., 2017)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Top management support</td>
<td>(Lee et al., 2010; Chen et al., 2014)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organizational culture</td>
<td>(Braunscheidel et al., 2010; Cao et al., 2015)</td>
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Table 2. Antecedences of supply chain collaboration

Note: The references are cited in the text and include the authors and year of publication for each antecedent.
Supply chain collaboration is a complex process that is influenced by many factors. From the literature review, it is evident that many studies have been conducted on this topic exploring the external collaboration activities among supply chain participating firms while the internal collaboration between functional departments within each of these firms is less concerned. Considering that the internal relationship between functional departments within a company is significantly important and may have effects on the collaboration with external supply chain partners, this research will explore supply chain collaboration from both internal and external perspectives.

Regarding studies on antecedents of supply chain collaboration, our findings reveal that there is still room for exploring the topic further. Firstly, while many investigations have been conducted on technical and relational factors, the contextual and organizational issues are less mentioned, and thus comprehensive research on those antecedents of supply chain collaboration would greatly contribute to enhancing relevant knowledge. Secondly, several investigations examined the effect of culture, as part of organizational factors, on supply chain collaboration and derived different findings.

Next, prior published works are limited only to some industry contexts. For example, antecedents were examined in manufacturing and service firms in general (Lee et al., 2010; Wu et al., 2014; Pradabwong et al., 2017). There are limited studies which paid attention to specific industries; for example, the maritime logistics industry (Yuen et al., 2017) or the automotive industry (Wiengarten et al., 2013). In Vietnam, the topic of antecedents of supply chain collaboration was explored in the mechanical industry (Luu, 2015), furniture industry (Huynh, 2017); and apparel industry (Ho et al., 2017). It is envisaged that more research especially in the context of developing countries like Vietnam needs to be conducted to shed light and enrich the literature on antecedents and outcomes of supply chain collaborations.

In summary, it has been shown from this review that there is a large number of factors affecting the collaboration of the supply network. Considering the important role of organizational insights and external context, this research aims to assess the impact of organizational and contextual factors on internal and external collaboration as well as its effects on a firm’s competitive advantage in the garment industry in Vietnam.

### 2.3 Competitive advantage

Competitive advantage is “the extent to which an organization is able to create a defensible position over its competitors” (Porter, 1985). In the literature, competitive advantage includes six dimensions: price/cost, quality, delivery speed, product innovation, time to market, and process flexibility as described in Table 3.

<table>
<thead>
<tr>
<th>Concept</th>
<th>References</th>
</tr>
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<tbody>
<tr>
<td>Price/cost</td>
<td>(Sukati et al., 2012; Liao et al., 2017)</td>
</tr>
<tr>
<td>Quality</td>
<td>(Wong et al., 2011; Sukati et al., 2012; Liao et al., 2017)</td>
</tr>
<tr>
<td>Delivery speed</td>
<td>(Wong et al., 2011; Sukati et al., 2012; Liao et al., 2017)</td>
</tr>
<tr>
<td>Product innovation</td>
<td>(Sukati et al., 2012; Liao et al., 2017)</td>
</tr>
<tr>
<td>Time to market</td>
<td>(Sukati et al., 2012; Liao et al., 2017)</td>
</tr>
<tr>
<td>Process flexibility</td>
<td>(Wong et al., 2011)</td>
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</table>
Based on the literature review, the conceptual framework and hypothesis development for investigating the impact of organizational and contextual factors on supply chain collaboration and competitive advantage are described in the next section.

3. CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

This research is anchored on three strategic management theories. The Institutional Theory (INT) posits that a firm’s business decisions are affected by the economic, social, and political forces exerted by relevant institutes, such as state and local government, powerful organizations (Scott, 2001). Organizations operate in a social system whereby organizational practices are influenced through social rules (Scott, 2001). This theory has been used to explain various types of external factors that force organizations to implement new practices, policies, and procedures (Saeed et al., 2018). Meanwhile, the Resource-based View (RBV) (Barney, 1991) of an organization supports the strategic involvement of various working groups using different organizational-level competencies to improve performance in order to obtain a competitive position in the industry. The RBV encourages organizations to make use of tangible and intangible resources to have valuable, rare, and imperfectly imitable products or services (Barney, 1991) and achieve competitive advantage in the market. Another theory which concerns how firms utilize their resources is the Relational View (RV) (Dyer et al., 1998). It provides theoretical support for the role of a network of relationships between companies to achieve a competitive advantage.

Underpinned by the aforesaid theories and derived from the literature review, a conceptual framework for evaluating the role of organizational and contextual factors in supply chain collaboration and competitive advantage is proposed as depicted in Figure 1.

![Conceptual framework of the research](image)

**Figure 1.** Conceptual framework of the research

In this research, the organizational factors are analyzed based on three aspects: willingness to innovate and change, top management support, and organizational culture. Resistance to change may come from the perceived difficulties involving supply chain collaboration, the fear of failure, or the requirement of a large amount of initial financial investments which barrier the collaboration implementation (Yuen et al., 2017). In order to gain successful collaboration, top managers must understand and facilitate in establishing and maintaining the relationship. Besides, gaining support from other functional departments, e.g. purchasing, manufacturing, and marketing is also important.
It was confirmed that there is a significant relationship between top management support and information sharing (Lee et al., 2010), which is an important aspect of supply chain collaboration. Meanwhile, organizational culture refers to the shared values and beliefs of a company. Based on this definition, organizational culture plays a vital role in guiding the member’s behavior, which further affects supply chain collaboration. For example, Cao et al. (2015) confirmed that group culture was positively related to both internal and external integration. The prospective impact of various organizational factors on how a firm’s internal and external collaboration is conducted can be underpinned by the INT. Thus, the following hypotheses are proposed:

\[ H1. \text{Organizational factors have a positive impact on internal collaboration.} \]
\[ H2. \text{Organizational factors have a positive impact on external collaboration.} \]

Contextual factors can be considered in four themes: technological uncertainty, demand uncertainty, supply uncertainty, and government support. Firstly, technological uncertainty indicates the changes in product and process technology (Boon-it et al., 2011). When product innovation among supply chain partners changes rapidly, firms need to involve more in information and resource sharing and joint knowledge creation (Boon-it et al., 2011). Secondly, demand uncertainty means the extent of change of a customer’s needs and demands (Wong et al., 2008; Boon-it et al., 2011). It is argued that to respond to unpredictable customer orders, business partners should exchange resources and information. Boon-it et al. (2011) found the significant moderating effect of demand uncertainty on the relationship between internal collaboration and customer delivery performance. Thirdly, supplier uncertainty means “the extent of change and unpredictability of supplier’s product capability or delivery practice” (Chen et al., 2014). If the level of supplier uncertainty gets higher, information will need to be more intensively processed. This will require a higher level of information sharing, information quality, and information availability in a supply chain (Chen et al., 2014). It was confirmed that firms attempted to achieve a higher level of supply chain integration when they faced a higher level of supplier uncertainty (Wong et al., 2008). Finally, government support refers to the intervention of the government in business activities. Local governments can establish formal and informal policies related to economic activity. It was found that government support is positively related to information sharing and collaborative planning with their partners (Huyhn, 2017). The effect of contextual factors on internal and external collaboration can be underpinned by the INT. Thus, we propose the following hypotheses:

\[ H3. \text{Contextual factors have a positive impact on internal collaboration.} \]
\[ H4. \text{Contextual factors have a positive impact on external collaboration.} \]

The positive relationship between internal and external collaboration has been confirmed by empirical studies in the literature (Zhao et al., 2011; Yu et al., 2013; Huo et al., 2016). For example, it is indicated that firms must first develop internal capabilities before they can engage in the integration with external suppliers and customers (Zhao et al., 2011). Similarly, organizations with a higher level of internal collaboration have strong internal capabilities that are necessary for external collaboration (Huo et al., 2016). As a result, Yu et al. (2013) showed that internal integration is an enabler of external integration with supply chain partners. Therefore, we can derive the following hypothesis:

\[ H5. \text{Internal collaboration has a positive impact on external collaboration.} \]
The relationship between supply chain collaboration and a firm’s competitive advantage has been studied quite intensively in the literature. For example, Wong et al. (2011) investigated the relationship between supply chain integration and operational performance which includes delivery, production cost, product quality, and production flexibility. The results confirmed that all the relationships were significantly correlated. Meanwhile, Vanathi et al. (2014) examined the role of supply chain collaboration in a firm’s competitive advantage in the context of the textile industry in India. The research indicated the positive relationship between supply chain collaboration and competitive advantage. Besides, Liao et al. (2017) proposed a model to address supply chain collaboration value innovation in a firm’s competitive advantage in Taiwan’s networking communication industry. The results showed that the greater the collaboration between supply chain partners, the greater the firm’s competitive advantage can be obtained. Regarding the RBV, the collaboration between functional teams within an organization can be seen as an intangible resource that is valuable, rare, and imperfectly imitable that can make or break a firm’s competitive advantage. Besides, the role of external collaboration as a means to exploit complementary capabilities to achieve a competitive advantage is supported by the RV. Therefore, the following hypotheses are posited:

\[ H6. \text{Internal collaboration has a positive impact on competitive advantage.} \]
\[ H7. \text{External collaboration has a positive impact on competitive advantage.} \]

4. CONCLUSION

This paper presents a conceptual framework outlining the role of organizational and contextual factors in enhancing competitive advantage through supply chain collaboration in the garment industry.

The proposed conceptual framework, together with its empirical validation developed at the later stage, will contribute not only to theory building but also management practices. From the academic perspective, this research will enhance knowledge on organizational and contextual factors that influence supply chain collaboration in the context of the garment industry, which has not been well studied in the prior literature, especially in a developing country like Vietnam. Also, the outcomes from this research will enhance the application of the RBV, RV, and INT theories.

From a practical point of view, this research will, after being empirically validated, provide managers of garment companies with insight into their current supply chain collaboration practices. Also, it will shed light on organizational and contextual issues when implementing supply chain collaboration to gain competitiveness and help managers with knowledge on which issues to be focused on improvement. Moreover, findings from the investigation in this research may also provide insight for those who want to establish or maintain a business relationship with Vietnamese garment companies.

This study is in the stage of reviewing the literature and developing a conceptual model. As a result, the main limitation of this paper is the lack of empirical validation which shall be conducted in the next stage. Although the research model is developed in the case of the garment industry in Vietnam, the impacts of organizational and contextual factors on supply chain collaboration in other industries, countries are worthy of investigation in the future.
5. REFERENCES


