

## **Do suppliers navigate across chains and industries? Literature review and research agenda**

Mai Fujita

### **Abstract**

Supplying parts or products to leading transnational buyers or producers is widely regarded as an important initial step in the growth of small suppliers. However, improving their positions within value chains governed by dominant customers has posed major challenges to such suppliers. This study turns the focus to customer and market diversification, a strategy that has a range of potential benefits for suppliers yet has been largely neglected in the literature. This interim report brings together the two strands of theoretical and empirical literature on global value chains and strategic management to identify research gaps and a research agenda, and to elaborate key concepts and conceptual tools for analyzing supplier diversification. It is argued that integrating the two strands of literature is crucial for tailoring the conceptual tools such as dimensions and paths of diversification and relatedness specifically to the analysis of supplier diversification.

**Keywords:** supplier, global value chain, diversification

### **1 Introduction**

Supplying parts or products to leading transnational buyers or producers, referred to as lead firms, is widely regarded as an important initial step in the growth of small and medium suppliers. By entering into such relationships, suppliers can focus on a narrow range of activities and products and gain access to large markets. Moreover, since obtaining reliable and timely supply of customized inputs or products at competitive prices is vital for these lead firms in sustaining their competitive advantages, they make effort to maintain a network of suppliers that are capable of meeting their requirements (Schmitz and Knorrninga 2000). Where the availability of competitive suppliers is limited,

such lead firms even provide existing and potential suppliers with detailed product and process specifications and technical assistance (United Nations Conference on Trade and Development, 2001). By participating in value chains led by such lead firms, suppliers gain the opportunity to learn to improve their process or technological competencies so as to reach the product and process requirements imposed by the lead firms (Schmitz and Knorringa, 2000; Ivarsson and Alvstam, 2005).

Whether and how suppliers can leverage such opportunities to grow and improve their positions over time, however, remains a subject of debate. To date, this question has been examined primarily with a focus on suppliers' relationships with their main customers. The literature has emphasized that the advantages of entering into such relationships, discussed above, may be subject to limitations and may even come at a cost. While lead firms tend to encourage suppliers to achieve upgrading of products or processes, they often obstruct or hinder suppliers' attempts to realize functional upgrading, that is, acquiring high-margin, hard-to-replicate functions such as branding and marketing (Schmitz 2006; Schmitz and Knorringa, 2000). Furthermore, lead firms attempt to lock-in their suppliers to exclude others from reaping the benefits of their investment in these suppliers, leading the suppliers to become transactionally dependent on their main customers (Gereffi, Humphrey, and Sturgeon 2005). This suggests that, in the longer run, there are risks that suppliers may eventually be forced into a situation where they must focus on low-margin activities with low barriers to entry while the lead firms' domination undermines their capacity to bargain for larger margins.

Upgrading within chains governed by the main customers, however, is not the only way in which suppliers can improve their positions. Suppliers may also go beyond their existing business relationships to develop new customers, explore new markets, or even use their resources and capabilities to expand into new sectors (Sako and Zylberberg 2017). Though risky and costly, diversification in general has potential benefits such as achieving economies of scale and synergy effects, and reducing dependence on existing customers (Besanko *et al.*, 2003; Grant, 2007). Specifically for suppliers of customized components, trading with multiple customers provides the opportunity to learn from multiple products, markets, and applications (Nobeoka, Dyer, and Madhok 2002). A

supplier with a broad customer scope may also gain more bargaining power, since it is less dependent on a single customer (ibid.).

Despite such potential benefits, supplier diversification to date has attracted limited attention. The global value chain (GVC) literature has analyzed supplier diversification primarily as suppliers' move into new, higher value-added chains or sectors, which are categorized as interchain and intersectoral upgrading, respectively, in the typology of supplier upgrading in GVCs. Strikingly, previous studies have provided evidence that interchain or intersectoral upgrading has indeed taken place, even in industries where lead firms' control over suppliers is thought to be strong, such as the apparel (Goto, Natsuda, and Thoburn 2011), footwear (Navas-Alemán 2011) and motor vehicle industries (Castelli, Florio, and Giunta 2011; Rugraff and Sass 2016; Blažek 2016; Fujita 2013; Fujita 2011; Sato 2011). However, these studies either examined supplier upgrading broadly or focused on other types of upgrading – most often functional upgrading, which is often regarded as the most important type. As a result, interchain and intersectoral upgrading have rarely been analyzed systematically as a central focus of research. According to Milberg and Winkler (2013), “intersectoral upgrading – moving into new, higher value added supply chains – is perhaps the most important in terms of overall development trajectory, but has received the least attention in the value chain case study literature.”

In the research project on suppliers in GVCs, the author seeks to explore the viability of customer and market diversification as a strategy for suppliers of leading transnational buyers or producers attempting to improve their positions in the value chains. To this end, it is crucial to draw on insights from the relevant literature. On the one hand, the strategic management literature has examined diversification in terms of firms' strategic decision making, although the focus has been primarily on large multiproduct firms. On the other hand, the GVC literature has looked into the opportunities and constraints as well as patterns of supplier upgrading, although, as emphasized above, limited attention has been directed to suppliers' diversification beyond their existing business relationships. Therefore, this interim report attempts to bring together the above two strands of theoretical and empirical literature to identify research gaps and a research agenda, and to elaborate key concepts and conceptual tools for analyzing supplier diversification.

The remainder of the report is structured as follows. The next section reviews the empirical literature on supplier diversification and identifies research gaps. Then, by drawing on the strategic management and GVC literature, Section 3 elaborates key concepts and conceptual tools for understanding whether and how suppliers can diversify and what the consequences of doing so are. The last section presents the conclusion.

## **2 Supplier diversification: Empirical evidence**

The growth and upgrading of suppliers that provide customized inputs to leading transnational buyers and producers has been analyzed primarily with a focus on the question of how they upgrade within the chains governed by these lead firms. This is because lead firms have emerged as key actors shaping the opportunities and constraints for their suppliers (Humphrey and Schmitz, 2002; Schmitz 2006). This literature will be reviewed in detail in Section 3.2

The emphasis on suppliers' relationships with their main customers, however, does not imply the complete absence of a discussion about suppliers' businesses beyond their main customers. The GVC literature has discussed supplier diversification primarily in the context of supplier upgrading. In fact, the most commonly adopted classification of supplier upgrading includes intersectoral upgrading, which is defined as "using a specific capability acquired in one sector to enter another sector (Humphrey and Schmitz, 2002: 1025)". Some studies have also included interchain upgrading, or "applying the competence acquired in a particular function to move into a new chain (Pietrobelli and Rabellotti, 2011: 1262)", in the typology of upgrading. These types of upgrading, however, remain under-conceptualized. Ponte and Ewert (2009: 1639) pointed out that intersectoral upgrading relates to the trajectory of upgrading while the other three categories (i.e., process, product and functional upgrading) describe what aspect of a given business is being upgraded. This implies that, while the original definition of intersectoral upgrading cited above emphasized horizontal moves of suppliers into new sectors, in practice these may be combined with other three types of upgrading, including functional upgrading – i.e., vertical shifts into new functions (Blažek 2016: 854). Blažek (2016) argues that it is important to distinguish between a shift into a different sector that

involves horizontal movement alone or a shift that also entails vertical movement (i.e., undertaking different functions along the chain in addition to production), since these two trajectories represent profoundly different risks and rewards as well as capability requirements.

Empirically, the literature has identified relatively few cases of intersectoral upgrading, most of which have been very successful ones and mainly in East Asia.<sup>1</sup> The classic example of intersectoral upgrading cited in many of the earlier studies is the move by Taiwanese companies, which used their competence manufacturing televisions to move into the computer sector by initially producing monitors (Schmitz 2006). Lee, Szapiro, and Mao (2018) argued that Taiwan and Korea successfully upgraded by moving into the high-end segment of the same industry and into new higher value-added sectors, referred to as “double diversification and upgrading.”

The limited explicit mentioning of intersectoral or interchain upgrading in the literature does not necessarily mean that it does not happen. Careful reading of previous studies suggests that it has taken place. For instance, garment and footwear producers in developing countries diversified their customer base and were able to enter to new markets. Goto, Natsuda and Thoburn's (2011) study of Vietnamese garment suppliers found that most suppliers combined the US, Europe, and Japan as their key export markets beyond their domestic market. The most competitive and productive suppliers even claimed to select buyers by rejecting orders from US buyers that focused on low-price product segments and shifting production capacity for orders from Europe and Japan that focused on higher value-added products (ibid., p.363). Navas-Alemán's (2011) study of export-oriented Brazilian footwear and furniture producers emphasized the importance of simultaneously serving the domestic and regional markets in addition to the export market, because relationships with domestic and regional lead firms were market-based and therefore were more conducive to functional upgrading by suppliers.

Customer diversification is also observed among suppliers in the motor vehicle industry, where lead firms are generally seen as exercising substantial buying and coordination

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<sup>1</sup> Giuliani, Pietrobelli, and Rabellotti (2005) found very limited occurrence of intersectoral upgrading in Latin America.

power over suppliers and where the absence of open, industry-wide standards raises the costs for suppliers that have multiple customers (Sturgeon et al. 2009; Sturgeon, Van Biesebroeck, and Gereffi 2008). Previous studies have shown that suppliers may actively diversify their customer base as they extend their supplies to upmarket automakers<sup>2</sup>, or that they may be compelled to diversify as they respond to a crisis of their main customers or the economy as a whole (Castelli, Florio, and Giunta 2011; Rugraff and Sass 2016).

Cases of customer diversification have been identified even among suppliers in the Japanese auto industry, which is often regarded as a classic example of captive chains where dominant lead firms control tiers of suppliers that are highly dependent on one or small number of key customers (Sturgeon, 2002: 481-2). While it is often emphasized that Japanese automakers maintain long-term, exclusive or semi-exclusive ties with their keiretsu suppliers (Dyer and Ouchi 1993), these supplier networks in fact also include non-keiretsu suppliers that trade with multiple competing automakers. These so-called independent suppliers make limited investments in customer-specific assets and realize economies by selling their relatively standardized products to all automakers (Dyer, Cho and Cgu, 1998: 67-8). Furthermore, recent empirical analyses found signs that keiretsu ties themselves have been partially transformed. On the automakers' side, some such as Nissan and Mazda significantly reduced the proportion of sourcing from keiretsu suppliers since the end of the 1990s, although no significant changes were observed for others such as Toyota and Honda (Takeishi and Noro, 2017). On the suppliers' side, some – most notably Toyota's and Honda's keiretsu suppliers – expanded their sales to automakers other than their keiretsu customers in the 2000s (ibid.). With respect to the impact of diversification on supplier performance, Nobeoka, Dyer, and Madhok (2002) showed that greater learning opportunities resulting from greater customer scope lead to superior supplier performance in terms of profitability.

What is even more striking is that studies on the motor vehicle industry have identified incidences of supplier diversification into different industries. At one extreme, there are

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<sup>2</sup> Blažek (2016), for instance, discusses the case of an Indian-owned, Czech-based automotive firm expanding its customer base from Škoda to numerous upmarket automakers including Bentley.

highly innovative suppliers in developed countries. Kuan, Snow, and Helper's (2014) study of suppliers in the US auto industry, for instance, found a cluster of suppliers that engage in intensive R&D whilst supplying multiple customers without investing in relation-specific assets and exhibiting low overall dependence on the auto industry over all. A typical example is an electronic components manufacturer whose main customers are in the electronics industry, not the auto industry. At the other extreme are much smaller and resource-constrained suppliers in developing countries that engage in less sophisticated activities. As an illustrative example, Fujita's (2013) analysis of capability building among locally-owned first- or second-tier motorcycle component suppliers in Vietnam serving Japanese- or Taiwanese-invested customers found that many suppliers in fact operated simultaneously in other industries. They used their metal, plastic, or rubber processing capacity to produce household products for the domestic market or components for bicycles, automobiles, consumer electronic products or agricultural machineries for domestic or foreign customers. Diversification beyond the industry border also appears to be a common response of auto component suppliers faced with competitive challenges. In Brazil, domestic suppliers, squeezed out of the top segments of the value chains due to intensifying competition with assemblers' global supply sources, diversified into other sectors such as telecommunications (Tewari 2001). Likewise, transnational and locally-owned middle-tier suppliers in Tamil Nadu, India facing similar challenge talked of expanding into aftermarket components, toys, or other labor-intensive consumer goods for which there is large demand in East Asia (Tewari 2001).

Overall, the review of the empirical literature in this section suggests that customer and market diversification is an important yet neglected issue in the research on supplier strategy. While previous studies point to examples of supplier diversification, to date limited systematic analysis has been done, leaving a series of questions unexplored. First, under what conditions can suppliers diversify customers and/or markets? While previous studies identified cases of customer or market diversification by suppliers, apparently this was not the case for all suppliers, either because others did not make the attempt or because their attempt was unsuccessful. Further research is needed to explore what factors account for these differences. The second set of questions concerns the patterns of

diversification. Among garment and footwear suppliers, customer diversification was observed but inter-industry diversification was not. By contrast, both patterns of diversification were observed among motor vehicle component suppliers. It remains to be explored what the possible paths for supplier diversification are and what factors account for differences in diversification patterns across industries and suppliers. Lastly, how does diversification affect supplier performance? Few systematic analyses have been conducted on this issue, with the exception of Navas-Alemán's (2011) study of supplier upgrading and Nobeoka, Dyer, and Madhok's (2002) study of supplier learning discussed above.

### **3 Diversification by suppliers: Key concepts and conceptual tools**

Given the absence of systematic studies on supplier diversification to date, developing concepts and conceptual tools poses a major challenge. To this end, it is essential to draw on two streams of literature. One is the strategic management literature, which provides insights into diversification in terms of firms' strategic decision with a primary focus on large multiproduct firms. The other is the GVC literature, which provides contextual understanding about the opportunities and constraints faced specifically by suppliers of lead firms, though with limited attention on suppliers' diversification beyond their main existing business relationships. This section brings together these two streams of literature to identify and elaborate key concepts and conceptual tools for understanding supplier diversification.

#### **3.1 Theoretical underpinnings: Diversification as a synergy-seeking strategy**

Diversification represents a strategic decision for firms. Firms diversify for different reasons. Some may adopt diversification as a growth strategy, escaping the unattractive business environment they operate in and entering into a more attractive sector. Others diversify out of a need to spread risks across multiple businesses or in an attempt to utilize excess resources in new markets. Different theoretical perspectives provide theoretical foundations to explain mechanisms as to why firms diversify (Ahuja and Novelli 2017). According to the resource-based perspective, which sees firms as bundles of resources

(Penrose, 2009), firms are motivated to diversify in order to utilize excess resources that have multiple uses but that are subject to market failure (Teece 1982). Transaction cost economics (Coase, 1937; Williamson, 1975) sees firms' decisions to diversify, either vertically or horizontally, as being driven by the need to internalize transactions so as to reduce the costs of market exchange. Further, strategic behavior perspective sees diversified firms benefit from competition-related advantages as their simultaneous presence in multiple markets enables coordination of strategies across markets.

Regardless of the differences in theoretical foundation, all of these perspectives see diversification fundamentally as a synergy-seeking strategy (Ahuja and Novelli 2017). Each perspective, however, emphasizes different types of synergies. According to the resource-based view, sharing of tangible resources such as equipment, facilities and distribution systems, and intangible resources such as technology, brand, and organizational capabilities across different product lines and business boundaries enables economies of scale and scope. Firms also benefit from transferring learning across different product lines. According to transaction cost economics, vertical integration enables better coordination between different stages of production and controls opportunism among suppliers and buyers. According to the strategic behavior perspective, simultaneous presence in multiple markets brings about the benefits of mutual forbearance, cross subsidization or reciprocal buying. The benefits of these synergy effects, however, come at the cost of transferring and adapting resources to new business (adjustment costs) and sharing and creating linkages between resources used for different businesses (coordination costs).

### **3.2 Influence of main customers**

The strategic management literature has examined diversification primarily by drawing on large cross-industry samples or focusing on large multiproduct firms, typically conglomerates in developed countries. By contrast, this paper explicitly focuses on the diversification by supplier firms, from developed as well as developing countries, of leading transnational buyers or producers. Such firms, apart from being generally constrained in terms of the amount of resources they possess and their capacity to manage

multiple businesses, have a distinctive feature in that they concentrate on a particular function along the value chain (i.e., production of intermediate inputs), and that they often depend on a small number of large customers – or even a single customer, in extreme cases. There are certain distinctive features of supplier diversification that stem from their respective characteristics. One crucial feature is the influence of the main customers.

For a supplier serving a leading transnational buyer or producer, the relationship with the main customer is naturally a crucial consideration in formulating its strategies. There are two key issues involved with respect to the supplier's decision to diversify and its capacity to do so. The first concerns how much opportunity for sustainable growth and upgrading the supplier can expect from its relationship with its main customer. The attractiveness of the current business environment is expected to influence the extent to which the supplier would be motivated to explore additional or more attractive business opportunities elsewhere. The second concerns how the lead firm would respond to its supplier's attempt to explore new customers and/or markets, which is likely to influence supplier's decision to diversify as well as its capacity to do so.

On the first issue, earlier literature emphasized that lead firms tend to use the power asymmetry resulting from their large market shares to constrain the strategic options available to suppliers so that the suppliers would serve the interests of the lead firms. It has been argued that lead firms “hinder” or “obstruct” attempts by suppliers to achieve functional upgrading because global buyers were not interested in creating their own future competitors and/or allowing their suppliers to focus their efforts on activities other than providing the best product for their global buyers (Navas-Alemán 2011).

However, whether suppliers are indeed constrained from engaging in high value-added activities is a subject of controversy. While the literature discussed above emphasized that lead firms tend to outsource low-margin manufacturing activities while maintaining high-margin activities such as design, branding and marketing in-house, recent research has emphasized the growing tendency of lead firms to outsource innovation and knowledge-intensive tasks. For instance, some studies suggest that lead firm only keeps strategic innovation in-house or close to home while other types of innovation functions are increasingly outsourced to independent suppliers or transferred to regions outside of

the USA and Western Europe (Schmitz, 2007; Schmitz and Strambach, 2009; Lema, Quadros and Schmitz, 2015).

With respect to the second issue, the literature is again divided on how lead firms would respond to suppliers' attempts to explore new customers and/or markets. There are studies emphasizing lead firms' attempts to lock suppliers into exclusive or semi-exclusive relationships for different reasons. First, where transactions involve commercially sensitive information, lead firms often prefer to enter into exclusive relationships with suppliers so as to avoid the risk that intellectual property leaks out to rival firms (Nobeoka, Dyer and Madhok, 2002; Takeishi and Noro, 2017). Second, lead firms may prefer to maintain long-term, exclusive or semi-exclusive relationships with a limited scope of suppliers to incentivize them to invest in relation-specific assets and skills (Asanuma 1989). Third, lead firms may attempt to prevent others from reaping the fruits of their assistance to and investment in suppliers (Gereffi et al. 2005). Fourth, large buyers often prefer to maintain suppliers that are strongly committed and dedicated to work for them, for instance, in the sense of fully committed and willing to implement the customers' corporate standards (Ivarsson and Alvstam, 2010: 1578). Fifth, cost reduction may also be a concern. Having a small number of dependent suppliers enables lead firms to squeeze costs because of bargaining power and scale and learning economies. Reducing the number of suppliers is also a way to reduce implementation and monitoring costs of suppliers, because suppliers are required to apply the customer's standards to the whole company, even if the customer only accounts for a small share of their total sales (Ivarsson and Alvstam, 2010: 1578).

However, while most of the reasons mentioned above explain why lead firms would want to be dominant customers for their suppliers, they fall short of accounting for why lead firms would want to be an exclusive customer. Indeed, Ivarsson and Alvstam's (2010) analysis of Ikea's relationships with local suppliers in China and Southeast Asia showed that, although this buyer preferred to be an important customer for their suppliers, it encouraged suppliers to sell to other buyers in order to spread risks, generate greater economies of scale, and to enhance learning. Nevertheless, the first factor discussed above – the risk of intellectual property leakage – still needs to be considered. This factor explains why – where transactions that involve sharing of the lead firm's proprietary

technology with its suppliers – a lead firm would try to prevent its suppliers from acquiring additional customers. As an illustrative example, Toyota had long avoided purchasing components from Nissan’s keiretsu suppliers, and vice versa (Takeishi and Noro, 2017: 26). In an attempt to explain why Toyota’s keiretsu suppliers were able to expand sales to non-keiretsu customers such as Nissan in the 2000s, Takeishi and Noro (2017) point out that, under certain conditions, losses incurred from intellectual property leakage may not necessarily be substantial. For a lead firm that is capable of maintaining a leading position in the industry, they argue, possible losses incurred from intellectual property leakage would be limited. They argue further that expansion of customer scope would enable suppliers to improve their knowledge, capabilities and competitiveness, which in turn would help lead firm-supplier collaboration generate better outcome and even increase the likelihood that the lead firm would maintain the leading position in the industry.

### **3.3 Where to diversify?**

A key decision for firms attempting to diversify is: diversify into what business? This question is important because the types of business that firms diversify into are likely to affect the extent of synergy effects that can be derived from sharing common resources across businesses, as well as the costs incurred by the adjustments and coordination of resources deployed in different lines of business. It is generally expected that firms diversifying into unrelated industries would find it difficult to utilize existing resources, and that any benefits may be offset by adjustment and coordination costs incurred from operating in substantially different lines of business, although empirical studies remain inconclusive (see Section 3.4 below).

However, what does “business” mean in the first place? Diversification is about going into a new business, but there are considerable variations across studies with respect to how “new business” is defined. Many studies focused on horizontal diversification into a new product, new product line, and new industry. Others concentrated on vertical shifts along the value chains into upstream or downstream functions. In short, there is no single

definition of diversification, though the dominant approach has been to focus on horizontal diversification into new products, product lines, and industries.<sup>3</sup>

Given the absence of a single standard definition of diversification, it is useful to tailor the concept specifically for our purpose of analyzing supplier firms. As emphasized in the introduction and Section 2, the GVC literature has conducted extensive analyses of suppliers' upgrading within the context of their relationships with their main customer(s), classifying the horizontal shift towards new higher-value products as product upgrading and the vertical shift into new higher value-added functions along the value chain as functional upgrading. This paper, by contrast, seeks to highlight the importance of suppliers' diversification of customers and markets, firstly because it has thus far been neglected in the literature, and secondly because it is crucial for suppliers in that it enables them to address one of their biggest challenges – dependence on one or a few dominant customer(s). However, although our central focus will be on the customer/market dimension of diversification, two additional dimensions also need to be incorporated into the analysis. First, the product/industry dimension needs to be considered as another dimension of horizontal diversification. Entry into a new industry implies entry into a new market. Particularly for suppliers operating in an industry that offers a limited scope for customer or market diversification, for instance, due to high levels of market concentration, diversification into a new industry may pose an attractive option for entering a new market. Second, a vertical shift into different functions along the value chain also needs to be considered. This is because some types of market diversification require that the suppliers engage in new functions in addition to their existing ones.

By elaborating the relationship between diversification along different dimensions, **Figure 1** maps out possible paths for supplier diversification along the horizontal and vertical directions. There are two dimensions to horizontal diversification along the customer/market and product/industry dimensions. A crucial point is that some types of horizontal diversification along the market and/or product dimension may require vertical diversification into different functions along the value chain, depending on the ways in

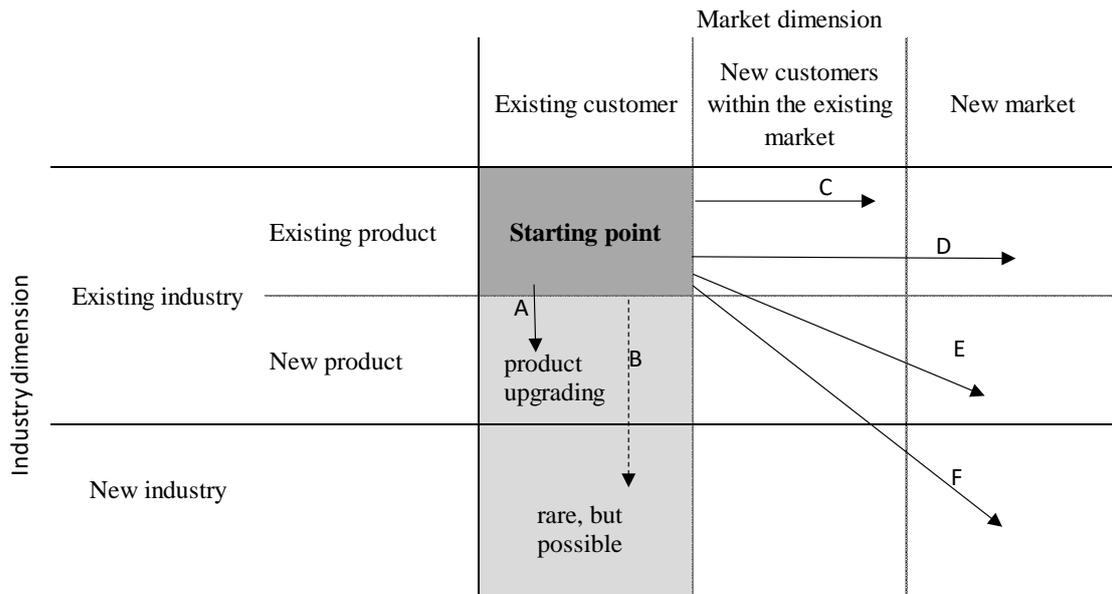
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<sup>3</sup> Ahuja and Novelli (2017) provide a review of literature on diversification and performance.

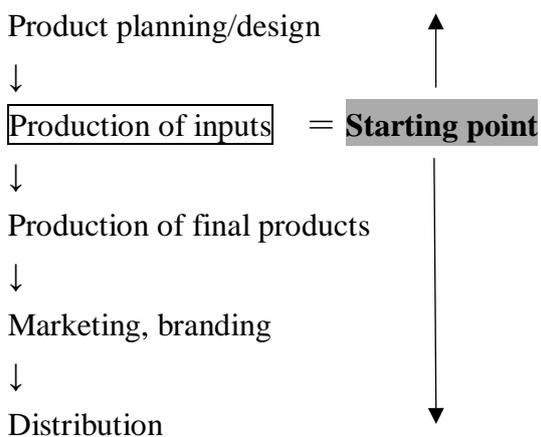
which value chains in the respective product or market segments are structured as well as the strategies of the supplier firms.

**Figure 1.** Diversification paths of supplier firms

a) Horizontal dimension



b) Vertical dimension: Some types of horizontal diversification take place as the supplier diversifies vertically along the value chain.



(Note) Different industries may have different value chain structures.

(Source) Prepared by the author

As a starting point, let us suppose that a supplier firm sells a single product to a single transnational producer or buyer. For example, a local Vietnamese supplier sells motorcycle fuel tanks to a Japanese-invested motorcycle manufacturer operating in the domestic market. This is shown as the dark-shaded area in Figure 1. This supplier then starts to diversify along the industry dimension, initially by launching a new product in the existing industry (e.g., motorcycle frames, which can be produced with the stamping processes used to produce fuel tanks) to the existing customer. This is denoted by the vertical arrow A in the same figure. Furthermore, this supplier starts to sell another product in a different industry to the same customer, as denoted by arrow B. Such cases are rare but possible. For instance, the supplier of motorcycle components starts to sell auto components to the same customer that produces both motorcycles and automobiles. Since these are cases of product diversification without customer diversification, the two cases are off the focus of this study. These two cases are shown as light-shaded cells in the figure.

Let us next consider cases in which the supplier diversifies along the market dimension. As the initial step, the supplier serving a single customer may start to supply an existing product to another customer in the same market (arrow C). Let us take the Vietnamese garment industry as an example, based on the study by Goto, Natsuda and Thoburn (2011). Local garment producers originally serving a single US buyer may obtain orders from another US buyer, or buyers from Europe or Japan. While the former is clearly a case of diversification into new customers in the same market, the latter may be subject to controversy. While US, European and Japanese buyers vary with respect to quality requirements and order volume, they might well be viewed as a single market category in that all of these buyers adopt the cut-make-and-trim (CMT) contractual modality with their suppliers. Under this arrangement, suppliers only undertake assembly functions using input materials provided by buyers such as fabrics and accessories, while buyers take responsibility for functions such as product design, distribution arrangement, and marketing. By contrast, a clear case of diversification into a new market is provided by export-oriented garment producers diversifying into their domestic market. Unlike export-oriented firms, firms serving the domestic market tend to internalize product

design and branding and engage in coordination of production and distribution<sup>4</sup>. While Goto, Natsuda and Thoburn (2011) point to the underdeveloped status of institutions such as distribution and protection of intellectual property rights in Vietnam, the absence of large buyers in the domestic market is also likely to be crucial in explaining the contrasting ways in which export- and domestic-market-oriented garment industries are structured. In any case, this case of horizontal diversification along the market dimension (but not along the industry dimension) also calls for vertical diversification into functions such as design and branding as shown in Figure 1b).

Lastly, diversification into new customers or markets may also involve diversification along the industry dimension into new products/product lines (arrow E), or even into new industries (arrow F). The strategic management literature generally regards diversification into new industries as difficult to undertake and manage. However, although previous studies of industries such as apparel and footwear found few examples of this type of diversification among suppliers of transnational producers or buyers, this has not necessarily been the case. Indeed, the review of empirical literature in Section 2 discussed numerous cases of inter-industry industry diversification among suppliers in the electronics and motor vehicle industries. For instance, Taiwanese companies successfully used their competence manufacturing televisions to make monitors and then to move into the computer sector. Here, following Blažek's (2016) call, it is important to distinguish between a shift that involves horizontal movement alone or a shift that also entails vertical movement (i.e., undertaking different functions along the chain in addition to production), since these two trajectories represent substantially different risks and rewards as well as capability requirements. Fujita (2013) provides an example of the former trajectory, in which Vietnamese motorcycle component suppliers produced machinery components to specifications provided by foreign buyers in ways that resembled their business dealings with Japanese-invested customers in the motorcycle industry. By contrast, Sato (2011: 123) discusses a case of the latter trajectory, an

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<sup>4</sup> A similar example is provided by Navas-Alemán's (2011) study of Brazilian footwear and furniture producers showing that suppliers serving the US and European markets focus on processing while suppliers diversifying into domestic and regional markets have greater chances of undertaking design, marketing, and branding activities.

Indonesian motorcycle component supplier, which applied its expertise in making motorcycle chains to develop a chain of its own design for industrial applications. This case involves not only diversification into a new industry but also a vertical shift from production to product development and design.

### **3.4 Relatedness**

The question of where to diversify, examined in depth in Section 3.3, is crucial because it influences the extent of synergy effects exploited by diversifying firms as well as the costs of diversification. A key concept in this regard is “relatedness,” which is the extent to which common skills, markets, or resources apply to different lines of business (Rumelt 1974). It is generally expected that firms diversifying into an unrelated business would find it difficult to utilize existing resources, and that any benefits may be offset by adjustment and coordination costs incurred from operating in substantially different lines of business. Empirical research initially supported this prediction, revealing that companies that diversified into businesses closely related to their core activities were more profitable than those that pursued diversification into unrelated businesses. (Rumelt 1982). However, later studies produced findings that are not necessarily consistent with the above picture. Some studies pointed out that the apparent superiority of related diversifiers could be explained by industry effects (Bettis and Hall 1982) or market structure (Christensen and Montgomery 1981). Others found no difference between related and unrelated diversifiers (Grant and Jammine 1988).

One of the factors that might account for the inconclusive results regarding the relationship between relatedness and performance of diversified firms concerns measurement. Defining what related and unrelated diversification entails is not a straightforward matter. The classic works by Rumelt (1974, 1982) used two indicators: 1) the specialization ratio, which expresses the fraction of a firm’s revenues attributable to its largest single business unit, and 2) the related ratio, which expresses the fraction of its revenues attributable to its largest group of businesses that draw on the same core skill, strength, or resource. This approach has been criticized due to its subjective classification of related and unrelated businesses according to similarities in inputs, production

technology, distribution channels, and customers. More recent studies have predominantly built upon established industry classification systems to classify the activities that a given firm is engaged in. According to this approach, two businesses are classified as related if they share the same two-, three- or four-digit Standard Industry Classification (SIC) codes (Fan and Lang 2000). This approach has also been criticized as unsatisfactory for not classifying types of relatedness (i.e., skills, inputs, assets or markets), and because industry classifications are not necessarily a satisfactory measure of relatedness between industries, particularly with respect to vertically related businesses such as oil refining and chemicals (Fan and Lang 2000).

The discussion of possible diversification paths for suppliers in Section 3.3 suggests that the conventional approach of measuring relatedness on the basis of established industry classification systems is not likely to shed much light on the extent to which suppliers can apply common skills, markets, or resources across different businesses. The following two insights can be drawn from the discussion in Section 3.3.

First, vertical diversification into different functions matters. While within-industry diversification has been regarded as relatively easy to undertake, the case of the Vietnamese garment firms discussed in Section 3.3 illustrated that entry into certain market segments in a given industry may require firms to undertake new functions along chains in addition to existing ones. While export-oriented firms focus on assembly tasks, firms targeting the domestic market tend to undertake additional functions such as product design and branding. This requires investment in new assets, skills, and capabilities because resources required for designing, marketing, and branding garments – even for the domestic market in developing countries where consumer demands are not as sophisticated – are essentially different from those required to meet product and process requirements for global buyers. Analyzing supplier diversification thus needs to take into account such differences in resource requirements inherent to different functions along value chains in a given industry.

Second, the type of industry matters. Inter-industry diversification has been generally regarded as more challenging than intra-industry diversification due to the difficulties of drawing on common resources, skills, and capabilities. However, the above discussion highlighted cases of auto and machinery component suppliers, including resource-

constrained ones from developing countries, diversifying into different industries. This apparent puzzle can be explained using the concept of “technological convergence” (Rosenberg 1963). According to Rosenberg (1963), machinery-producing industries have unique characteristics that allow a relatively small number of similar productive processes requiring similar skills, techniques, and facilities to be applied to a wide range of industries that produce vastly different final products. Machinery products – whether firearms, sewing machines, bicycles, or automobiles – largely consist of elements (parts) that perform a limited number of common functions (or solve common problems), such as power transmission, feed mechanisms, and friction reduction. Odaka (1983), who applied the concept specifically to the ancillary industry for the motor vehicle industry, argued that such common functions are performed by common sets of elements or parts: the transmission of mechanical movement performed by axles and shafts, gears, cams, belts, pulleys, chains, sprockets, and clutches; machine elements are connected by screws, rivets, pins, springs, and the like; and fluid control performed by pressure containers, valves, pipes, and so forth. Such machine elements are produced by common metal forming, machining, and joining processes. The key insight is that product specificities are crucial. While some suppliers engage in the production of the final product – as in the case of garment or footwear firms – others focus on intermediate inputs, which may have technological characteristics substantially different from the final products. These specific product characteristics need to be taken into account in analyzing business relatedness.

#### **4 Concluding remarks**

As an initial attempt to explore the viability of customer and market diversification as a strategy by suppliers attempting to improve their positions in the value chains led by leading transnational buyers or producers, this interim report brought together the two strands of literature on GVCs and strategic management to identify a research agenda and elaborate key concepts and conceptual tools.

The main findings are two-fold. First, customer and market diversification was found to be a potentially important yet largely neglected area in the research on supplier strategy.

Although previous studies have shown the occurrence of customer and market diversification as well as the positive impact on upgrading and learning, to date very few systematic analyses have been conducted. The present study identified a series of questions related to the determinants, patterns, and consequences of supplier diversification. Second, understanding whether and how suppliers can diversify and what the consequences of doing so are calls for the integration of these two strands of literature. Diversification is essentially a synergy-seeking strategy for suppliers in the same way it is for large multiproduct firms. However, suppliers are subject to unique conditions and constraints primarily because of their position in the value chain and their relationships with their main customers. The insights from the GVC literature helped tailor key concepts and conceptual tools such as diversification paths and relatedness to the analysis of supplier diversification.

In the future, it would be worthwhile to conduct in-depth empirical analyses of sectors in which examples of interchain and intersectoral upgrading have been identified. In particular, diversification beyond the existing industry (or intersectoral upgrading, a close equivalent using the terminology of the GVC literature) deserves further investigation, in view of the lack of systematic analysis in comparison with customer diversification (or its close equivalent, interchain upgrading) as well as evidence of diversification across machinery-related sectors.

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