

Service, relational governance, and the role of suppliers in global value chains : a case study of Japanese small suppliers in the Chinese market

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Service, Relational Governance, and the Role of Suppliers in Global Value Chains: A Case Study of Japanese Small Suppliers in the Chinese Market

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Abstract

Although intermediate goods trade is an important part of global value chains (GVCs), the study to date of the transactions between more capable developed country suppliers and less capable developing country customers has been largely neglected in GVC literature. Case studies have suggested that, as a result of adopting a turnkey solution strategy, the governance pattern under this relationship is usually “market.” Information and knowledge flows are highly restricted. In contrast to this literature, we discovered in our study that a group of Japanese small suppliers formulated various service strategies (problem solving, technological advice, joint product development, etc.) to make themselves indispensable to their Chinese customers. They created a typical “relational” governance links with local customers and provided them with ample learning opportunities. Here, we make it clear that characteristics of industry and market are important to establishing this type of relational governance. With limited managerial resources, active marketing activities and localization have helped small suppliers to internationalize themselves so as to apply their strong capabilities to the Chinese market.

Keywords: supplier, service, relational governance, internationalization

JEL classification: L20, O10

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1. Introduction

This paper seeks to clarify the role of capable, small suppliers in global value chains (GVCs) by conducting a case study of a group of Japanese small suppliers operating in China that were able to successfully establish business relationships with Chinese customers.

Existing literature on GVCs has previously focused solely on the business relationships that exist between developed country lead firms and developing country suppliers. Lead firms are considered to be dominant and suppliers to be subordinate. Innovation and solutions originate with lead firms in downstream value chains and upstream suppliers are likely to accumulate capabilities and upgrades only if they interact closely with lead firms and learn from them (Gereffi, 1999; Gereffi et al., 2005; Morrison et al., 2008; Pietrobelli, 2011).

However, these studies have neglected to consider an important aspect of GVCs, namely the existence of widespread transactions between more capable developed country suppliers and less capable developing country customers. Recent literature suggests that, as a demand hub in a simple GVC trade network¹, China has become the most important intermediate goods market for major East Asian countries such as Japan and Korea (GVC Development Report 2019, p.31). Initially, foreign companies operating in China played a central role in purchasing these goods. Along with the expansion of the domestic market, the role of Chinese firms as intermediate goods buyers has become increasingly significant.

Unlike local suppliers in the traditional GVC model, Chinese firms do not work for foreign buyers. They produce final products and independently organize production and distribution. These firms are achieving rapid growth primarily by exploring the Chinese market, especially its middle and low-end segments. With limited technological capability, Chinese firms are facing great pressure for industrial upgrading and increased reliance on high-quality intermediate goods provided by foreign suppliers (Watanabe ed., 2014).

In contrast, suppliers from developed countries have strong technological capabilities, and therefore play a crucial role in facilitating production, design, and product

¹ In a simple GVC trade network, factor contents cross a national border for production only once. For details, see Wang et al. (2017).

development. Suppliers are considered an important source of industrial competitiveness (Asanuma, 1989; Porter, 1990, Sako, 1992; Nishiguchi, 1994; Watanabe, 1997, Henke and Zhang 2010).

Suppliers can be categorized into several types, according to firm size, or their position in the value chain. This paper focuses on Japanese small suppliers that supply parts, materials, machinery, and equipment, along with those engaged in the processing business and their business relationships with Chinese customers. In this study, we identify the types of products or services that these small suppliers provide to customers, the implications of their activities for value chain governance, and how they overcame various internationalization difficulties to establish business relationships with Chinese customers.

The major findings of this case study are threefold. First, Japanese small suppliers performed various services (e.g., problem-solving, technological advice, and joint product development) to Chinese customers in addition to providing high-quality intermediate goods. Second, Japanese small suppliers adopted complex relational governance links with their Chinese customers. There are rich information flows between the two parties, thereby providing Chinese customers with ample learning opportunities regarding process improvement, quality control, and product development. Third, Japanese small suppliers facilitated internationalization through proactive marketing activities and localization.

In the remainder of this paper, Section 2 attempts to combine these lines of literature so as to generate basic research questions as it affects this paper. Section 3 gives an introduction of the background and data of this case study. Section 4 analyses the case of 15 Japanese small suppliers. Section 5 presents the conclusions.

2. Literature review

There are three lines of literature concerning this study. The first line of literature is relevant to the studies of the role of suppliers in the enhancement of industry competitiveness, particularly those concerning the success story of Japanese manufacturing sectors.

In his classic work, Porter (1990: pp.101–103) argues that the presence of internationally competitive supplier industries in a nation creates advantages in

downstream industries in several ways, such as creating efficient access to intermediate goods, ongoing coordination, and greater opportunities for innovation and upgrading. Henke and Zhang (2010) stated that innovation-related supplier activities can help enhance the competitiveness of a firm's supply chain. Suppliers invest resources in technology to create innovative products or processes that could support potential future business as well as share technology with the customer without the assurance of future purchase orders.

Studies on Japanese suppliers have suggested that capable suppliers, both large firms and small and medium-sized enterprises (SMEs), are a major source of the international competitiveness of Japanese manufacturing sectors (Asanuma, 1989; Sako, 1992; Nishiguchi, 1994; Watanabe, 1997). As for tier one suppliers, Asanuma (1989) in this study identified the widespread existence of the so-called Design-Approved (Shoninzu) Suppliers in manufacturing sectors, who have relation-specific skills, that are capable enough of proposing new designs to lead firms, in comparison to the common Design-Supplied (Taiyozu) suppliers. Watanabe (1997: 314) underlines three unique characteristics of the capabilities of small suppliers at tier two or below: Firstly, Japanese suppliers typically have world-class technological capabilities. In their own specific sectors, the technological levels of Japanese suppliers are usually higher than "parent companies"; secondly, Japanese small suppliers are supported by a flexible, specialized production network that has enabled these firms to respond to rapidly changing market demands; thirdly, Japanese small suppliers have strong capabilities with respect to proposing new designs or technological advices to lead firms, which can be used in the interests of collaborating on new product development.

However, the aforementioned studies all focused on relationships between domestic suppliers and customers. Therefore, this paper's first research question is: In a highly globalized era, what types of products, services, or knowledge can Japanese small suppliers provide to their Chinese customers and what role can they play in GVCs?

The second line of literature has primarily focused on the role of large key component suppliers (mostly platform leaders) in facilitating the development of high-tech sectors in emerging markets. Case studies of Intel's chipsets in the note PC industry (Tatsumoto et al., 2009), Media Tek (MTK)'s baseband IC in the mobile phone industry (Imai and Shiu, 2007; Ding and Pan, 2014), Mitsubishi's engine in the automobile industry (Marukawa, 2014), Taiwanese makers' ICs in the LCD TV industry (Watanabe, 2014), Japanese makers' compressors in the air conditioning industry (Watanabe, 2014)

indicate that foreign suppliers have widely adopted turnkey solution strategies to succeed in emerging markets, particularly China.

Using a GVC governance framework, the characteristics of governance arrangements for turnkey solutions and their consequences can be summarized as follows.² First, to avoid complex coordination activities, multiple hardware and software is generally integrated into a single module, which is usually a black box and not accessible to customers. Second, suppliers provide a reference design with customers, teaching them how to design and assemble a final product, and how to purchase intermediate goods. Third, the adoption of turnkey solutions has greatly reduced technological barriers to entry, generated strong external scale economies, and eventually enabled the emergence of numerous local final product assemblers. Meanwhile, turnkey solutions generate predominantly market-based relationships, which leave little room for tacit knowledge-learning and capability formation.³

The case of Taiwanese chipset maker MTK is representative of a turnkey solution strategy. In the era of the 2G feature phone, MTK integrated the baseband IC and the multimedia application processor into a single chipset platform, packaging the operating system, various applications (e.g., MP3 players, phone camera drivers, etc.), and sometimes the user interface into its chipset software (Imai and Shiu, 2007). MTK further conducted most of the system design and part of the platform software design and provided a reference design for their customers, which made most mobile phone components easier to use. As a result, the feature phone value chain in China became highly disintegrated, with numerous independent firms specializing in narrow production processes.⁴ In such a value chain, governance type is typically an arm's-length market that is characterized by disadvantages such as highly homogenous products and grave imitations. Only marginal innovation was allowed on the platform (Brandt and Thun, 2011; Ding, 2014).

In contrast to the conclusions drawn in existing literature, we discovered that a “relational” value chain has developed between Japanese small suppliers and their

² Gereffi et al. (2005) identified five distinct types of GVC governance in terms of degree of transactional complexity, ability to codify transactions, and supply-base capabilities: market, modular, relational, captive, and hierarchical.

³ There may be more modular-like business relationships with fewer larger, preferred customers who have the technological capabilities to customize the key components to some extent.

⁴ The product development of a feature phone usually involves two separate processes: the design house and the system integrator. During the peak in China, the number of these two parties reached 500 and 2000, respectively.

Chinese customers. Such relationships reveal the characteristics typical of relational governance as defined in the GVC literature: an exchange of complex tacit information, frequent face-to-face interaction, close mutual dependence between suppliers and customers, and high levels of asset specificity (Gereffi et al., 2005: 84, 86). Our second research question is thus: When compared with large key component suppliers, why are Japanese small suppliers so keen to adopt relational governance with Chinese customers given that doing so is costly and time-consuming?

The third stream in the literature concerns the internationalization of SMEs, particularly in the case of emerging markets. Returning to the aforementioned work of Porter (1990: 103), he strongly noted that “having a competitive domestic supplier industry is far preferable to relying even on well-qualified foreign suppliers. ...Proximity of managerial and technical personnel, along with cultural similarity, tends to facilitate free, and open information flow. Transaction costs are reduced.” This argument implies that the internationalization of suppliers is a very difficult process.

Ivarsson and Alvstam (2013: 585)’s case study of Swedish small suppliers in China supports Porter’s perspective, indicating that the liability of foreignness is a serious problem for SMEs when entering distant and unfamiliar foreign markets. According to this study, when they were unable to forge business partnerships in China, Swedish suppliers had to target customers from Sweden or other Western countries who shared similar business backgrounds.

In the case study of the Danish wind turbine component suppliers in China, Haakonsson and Slepnirov (2018: 467) similarly highlighted the following:

“SMEs are generally less ‘fit’ for internationalization than large firms. They have traditionally relied on their home networks related to their NIS (National Innovation System), proprietary processes and unique products; therefore, they are highly dependent on long-standing relationships with buyers.”

An interesting finding of this study is that because the technological capabilities of local lead firms were limited, it was difficult to create complex and long-standing relationships with Chinese lead firms as well as with lead firms in the domestic market.

Danish small suppliers thus standardized or modularized their products and managed to establish “modular” type business relationships with local customers.⁵

In summary, the literature suggests that with the difficulty of internationalization, it is a challenge for small suppliers to maintain a similar business relationship with local customers in emerging markets as well as in their domestic market. The third research question is thus: Since small businesses’ reliance on domestic networks is so high and internationalization is so difficult, how have Japanese small suppliers succeeded in creating a complex relational governance relationship with Chinese customers and internationalized themselves?

3. Background and data

3.1 Background

Since the 2000s, Japanese SMEs began making active investments in the Chinese market, which forms the very background of this case study. This was a result of the changes in the governance pattern and the market conditions occurring in the Japanese manufacturing sector.

The governance structure of Japanese manufacturing sectors has been considered captive relations between a few large lead firms and some specific small suppliers (Watanabe, 1997; Sturgeon, 2002). After the burst of the bubble economy in the early 1990s, however, the lead firm itself has faced stagnant growth and has not been able to ensure long-standing and stable orders for small suppliers. Meanwhile, as a result of long-term specialization, small suppliers have accumulated similar or stronger technological capabilities over lead firms in their specific sectors. In this situation, it was no longer advantageous for small suppliers to maintain captive relations with lead firms. Many small suppliers began to seek new customers by independently formulating strategies, and the relationship between the two parties became increasingly balanced. Using the term of GVC literature, a more “relational” governance structure has been gradually formed. Tokyo Shoko Research (2012)’s survey data on 6587 small subcontractors in Japan shows that the number of customers catered by small suppliers

⁵ This study uses the term “modular” to describe governance arrangements between Danish suppliers and Chinese customers. However, some cases in this paper appear to be market rather than modular since the product is standardized and Chinese customers simply accept it. As Sturgeon (2002) highlighted, without customization, product modularity would not necessarily lead to value chain modularity.

has continued to grow since 1990s (see Table 1), and small suppliers' dependence on the largest customer in terms of transaction volume has continued to decline (see Table 2).⁶

<Table1>

<Table2>

One important method for small suppliers to increase their independence from lead firms is to explore overseas markets. Since the 2000s, as the growth of Japanese market has reached its limits, the strong demands of overseas markets have become increasingly attractive. As Table 3 illustrates, since 2005, “strong local demands or good expectation on local demands,” compared to “ensure cheap and qualified labor,” or “follow customers and other Japanese firms,” has consistently been the most important determinant for small businesses in determining whether to invest in an overseas market or not.

<Table 3>

China is the most important country which Japanese small suppliers have invested in. In 2011, the geographical distribution of small firms' overseas branches is China (including Hong Kong, 44.6%), other Asian countries (34.4%), North America (11.4%), Europe (6.0%), and others (3.6%) (Small Business White Paper 2014). Most Japanese small firms in China are aiming at its huge domestic demands. According to another survey, regarding the question about “why does your company plan to expand or maintain the Chinese business,” 61.9% of Japanese small businesses answered that “we can expect business expansion based on the size and potential of the market,” far ahead from the second largest answer (25.6%), “our business is established, and it is on track” (JETRO 2014). These firms appear to have better performance in China than in Japan. In the Japanese market, the average share of loss-making small manufacturers between 1983 and 2007 was 37.1%, while in China only 24.9% small manufacturers predicted they would be making a loss in 2013.⁷

⁶ Regarding the degree of independence of suppliers, two points are noteworthy. First, the impact of 2018 financial crisis should not be neglected. Both the data of the number of customers and the data of the dependence on the largest customer in terms of transaction volume suggest that the degree of small suppliers' independence was the highest in 2008 and slightly declined after the crisis. Second, the degree of independence of small suppliers differs greatly across industries and across lead firms. Not all the small businesses have completely transformed into independent suppliers.

⁷ Data for Japan taken from the Small Business White Paper 2009; data for China published in JETRO (2014).

Japanese small manufacturers explored the Chinese market through several channels. Some small firms followed lead firms to establish factories in China and others established relationships with new Japanese customers who had no business relations in Japan. Another group of small suppliers attempted to break away from the domestic network, starting business with non-Japanese customers, particularly Chinese local customers, who are precisely the subject of this paper's analysis. Currently, it is still difficult to completely comprehend the entire picture of this type of small business in terms of transaction volume or other statistical indicators.⁸ However, the emergence of this group illustrates a new pattern in the international division of labor in GVCs and therefore has great qualitative significance for the study of GVCs.

3.2 Data

The empirical material for this analysis comes from interviews conducted between 2009 and 2011 by the Shanghai Branch of the Japan External Trade Organization (JETRO). These interviews were with Japanese small suppliers that had been selected because they had achieved significant success in operating in the Chinese market and, particularly, in establishing business relationships with non-Japanese customers. The interview records have been edited as three reports (JETRO Shanghai 2010, 2011, 2012). All of the reports and quotations were originally in Japanese and the author has translated them into English for this paper. In these reports, some interviews contain complete and detailed information on supplier strategy and chain governance, including on how they explored non-Japanese customers, how they managed relationships with customers, and how they facilitated localization.

The total number of interview records included in these reports is 61. Based on these interviews, 15 suppliers were taken as case study samples. The procedure for the selection of cases was as follows: In the first step, as our focal point is the impact of Japanese small suppliers on the development of the Chinese manufacturing sectors, the interviews of 29 companies engaged in the production of consumer goods, medical

⁸ According to a 2013 survey on Japanese SMEs in overseas markets, for 41.4% of "capital goods" (machinery) suppliers and 58.1% of "intermediate goods" (parts) suppliers, Japanese companies in local markets are their largest customers. For 33.1% of "capital goods" suppliers and 15.4% of "intermediate goods" suppliers, non-Japanese companies in local markets are the largest customers (Small Business White Paper, 2014: Figure 3-4-43). However, we cannot find specific data regarding the customer situation in the Chinese market.

equipment, environmental equipment, software development, as well as those in the service sector, were excluded. 32 companies engaged in the production of parts or machinery, or engaged in the processing business, were selected. In the second step, the interviews of nine firms whose number of headquarter employees is more than 1,000 was excluded.⁹ 23 companies of small and medium-sized enterprises (Chusho Kigyo, the number of headquarter employees is 300 or less, or the company capital is 0.3 billion yen or less), and medium-sized firms (Chuken Kigyo, the number of headquarter employees is 301-1,000), were selected. Lastly, eight companies that did not mention any information on supplier strategy and value chain governance were excluded as well.¹⁰ Following these three steps, 15 cases were selected from JETRO Shanghai reports (see Table 4). By means of a detailed examination of these successful cases, we might be able to gain an in-depth understanding of the role of small suppliers in GVCs and its implications for value chain governance.¹¹

<Table 4>

4. Case study

4.1 Profile of sample firms

From Table 4, we can briefly describe the general profile of these small firms. Out of 15 suppliers, nine are parts or materials manufacturers, six are machinery and equipment makers, and two are specialized processors. Since four of the firms are engaged in both providing parts and manufacturing machines, which is a significant feature of Japanese small manufacturers, the total sum is over 15.

Most of these suppliers entered the Chinese market in the mid-2000s. As Table 3 suggests, from this period “strong local demand” became the most important determinant for Japanese small businesses making direct investment in overseas markets. Eleven suppliers established their own production bases in China. Three suppliers achieved significant growth in China as the numbers of their employees in

⁹ JETRO reports treat these nine firms as SMEs as the number of local branch employees in China is 300 or less. However, we consider that the size of headquarter determines a company’s managerial resources and overseas investment, and thus excluded them from the case study samples.

¹⁰ It appears that these companies do not employ any strategy to manage relations with customers as their products are good enough to attract local customers. However, we will not discuss them as a research subject in this paper.

¹¹ In this sense, this analysis is not representative of all Japanese SMEs in China, but only of a few successful cases.

local branches exceeded that of their headquarters.

Customers of these small suppliers are diversified, coming not only from Japan, but also from mainland China, Taiwan, Korea, Europe, and the United States (US). Since the descriptions in JETRO reports regarding related indicators vary widely, it is difficult to identify the exact share of local Chinese customers in terms of sales volume or number of customers. But detailed information on supplier strategy and value chain governance in three reports concentrates on the relationship with Chinese customers. By analyzing these interviews, we might gain an understanding of the qualitative characteristics of the transactions between capable Japanese suppliers and less capable Chinese customers.

4.2 Service strategy

The major finding from the 15 selected cases is that all the Japanese suppliers actively adopted a service strategy, ranging from relatively passive problem solving and more active technological advice, to deeper collaboration, such as joint product development.

Eight suppliers view problem solving as an important avenue of service (see Table 4). Regarding this point, the following message from a bearing supplier (No.14) is representative:

“Our company has a way of thinking that ‘to be a problem solver of your customers!’ We believe in that if a customer is facing problems, new business opportunities must be lurking around there. We always train staff to respond to problems as quickly as they can. Then, as other problems arise, more and more customers would contact us once more.”

Among these eight suppliers, one spring washer supplier (No.3) particularly highlighted the significance of rapid problem solving for coordination. As a latecomer with little technological capabilities, it is usually difficult for Chinese lead firms to manage complex coordination. To manufacture high-quality final products with higher value added, however, such coordination is inevitable. As a result, Japanese suppliers attempted to lead the process of coordination through rapid problem solving. A manager at the company stated its practice in detail:

“In the case of Chinese firms, the product standards are not as unified as in Japan, and the drawings are rough. The bolt and our spring washer are thus often slightly

unfit with each other. In this situation, we usually make a sample first, and visit the customer to adjust the fitness with bolt. If they do not fit well, then, we will alter our production process as quickly as we can. The experience we accumulated in Japan over a long period enables this quick and accurate response.”

Active technological advice or making proposals proactively, as a strategy, is more observed from this group of suppliers. Of the 15 firms, nine firms stressed this point (see Table 4). In this case, Japanese suppliers do not just resolve problems related to their own products, but also proactively provide various useful pieces of knowledge or information to customers to help them make better products and gain a deeper understanding of manufacturing.¹² For this purpose, they insist on providing technical advice at a similar level as that seen in Japan, in spite of the Chinese customers’ weak technological and production capabilities. A supplier engaged in a laser cutting and precision sheet metal processing business (No.9) stated an interesting case in this regard:

“When a customer is facing a problem, if we give explanation on technology or quality at as similar level as in Japan, the customer usually shows strong interest. For example, in the semiconductor and food sectors, scratches at the surface of a piece of equipment are likely to cause problems. However, local firms usually throw things on top of equipment or tread on materials. They do not understand their activities will affect the completion of products and cause serious problems. In this situation, we always explore first what kinds of (deep) problems the customer is facing in the environment of Chinese manufacturing, and then propose suitable solutions to them.”

A few suppliers are more deeply involved in the customer’s process of product development. For example, a company supplying control systems for textile looms (No.11) spent five years jointly developing a new loom with their Chinese customers. Prior to that, the global market was dominated by a few Italian loom makers. The huge

¹² During our own fieldwork, we also discovered that some suppliers provide to their customers knowledge that is clearly beyond the scope of their own business. For example, company A is a supplier of rubber and resin parts for automobiles. The company manager claimed that Chinese customers often encountered its products during the process of reverse engineering. However, they did not understand the function and importance of the materials his company used — they just wanted to purchase it at a cheap price. Meanwhile, Chinese automobile makers are very keen to learn any type of auto-related knowledge. In this situation, Company A teaches customers knowhow concerning the usage of its reinforcement materials, in addition to providing knowledge and information on other types of auto parts, and knowledge about on how to produce the entire vehicle.

and continually growing Chinese market enabled the new entry of Chinese firms and this new type of collaborative innovation.

4.3 Relational governance

In the context of GVC literature, the business relationships described above are typically “relational.” There are exchanges of uncodified knowledge through frequent face-to-face interaction, explicit coordination, and close mutual dependence (Gereiffi et al., 2005: 86). The Chinese customers are highly dependent on Japanese suppliers’ technological capabilities to resolve problems or to acquire new knowledge on manufacturing or product development. On the other hand, the Japanese suppliers not only rely on the Chinese customers’ capabilities to manufacture and sell the final products, but also need their information to develop better-fitting products for the Chinese market.¹³

In the GVC literature, a high level of asset specificity was also highlighted as an important factor in relational governance (Gereiffi et al., 2005: 84). We can further scrutinize this concept to gain a deeper understanding of the relationship between Japanese suppliers and Chinese customers. The concept of asset specificity was presented by Oliver Williamson. In addition to the three well-known types of asset specificity—site, physical, and human specificity—Williamson and his colleagues also identified a fourth dimension (Ouchi and Williamson, 1981), called “relational asset specificity” by Sturgeon (2002). According to Ouchi and Williamson (1981: 353), when a transaction represents relational specificity,

“specific language develops, and nuances are signaled and received in a sensitive way. Both institutional and personal trust relationships evolve. In consideration of the value placed upon economies of these kinds, agents who engage in recurring, uncertain, idiosyncratic transactions have a strong interest in preserving the exchange relation.”

In the Japanese market, these four types of asset specificities have been significantly observed, particularly in transactions with tier two suppliers (Nishiguchi, 1994: Chapter 5). In the case of Japanese small suppliers in China, however, we did not discover significant site, physical, or human specificity. This is because in an emerging market,

¹³ Two suppliers clearly mentioned this point.

customers are diversified and dispersed, making it unnecessary for small suppliers to open factories or prepare specific human resources for specific customers. Similarly, local companies generally do not have strong capabilities for a high level of product differentiation. They thus have to accept the specifications proposed by suppliers, which reduces the necessity for physical asset specificity.

On the other hand, significant relational specificity has significantly appeared in the relationship between Japanese suppliers and Chinese customers. A statement by a supplier engaged in plating precision functional parts (No. 8) represents this typical relationship:

“Our company always keep in mind that we need to actively propose to users and get technological consultation from them. Through this practice, we can establish trust with customers. If some problems we cannot resolve in China, we collaborate with Japanese headquarter to respond as soon as we can. We open the composition of costs to users. By doing so, we can let Chinese customers to understand us. It is as similarly important to create a long-term partnership with customers in China as in Japan.”

Indeed, establishing a Japanese-style business relationship that is characterized by its long-standing nature and trust, namely, creating significant relational specificity, is exactly the ultimate purpose of these Japanese small suppliers (Asanuma, 1989; Sako, 1992). As Table 4 suggests, of the 15 suppliers, there are nine firms that clearly expressed wishes to maintain long-term relations or establish trust (by opening up information about cost structures) with customers.

It is clear that relational governance with strong relational specificity is costly and time-consuming. In view of this, why is this group of Japanese small suppliers, under limited managerial resources, so keen to adopt it rather than a simpler type of relationship such as one that is market-based or modular?

The first reason why Japanese suppliers choose relational governance over all other types of relationships, is because of the low codifiability of products and services. Most of these suppliers are highly specialized in niche markets (see Table 4). In contrast to large suppliers that provide core components that can be modularized and used as turnkey solutions, it is difficult for small suppliers to modularize or standardize their

products or services. Instead, they are required to differentiate their products or services as much as possible in terms of customers' diversified demands.

Industrial characteristics further strengthen the low codifiability. In industries such as automotive, metalworking, and machinery that Japanese suppliers concentrate on, the interactions between parts or components are more unpredictable and modularity is more difficult to establish and more likely to break down. Small suppliers are thus strongly required to adopt relational governance to manage the widespread uncertainty characteristic of these sectors.

The second reason is related to the price and quality of Japanese products. With regard to the query on "what is the strength of your company" (multiple answers), of the 11 firms that clearly responded, eight firms answered high quality, while only one company answered low costs (see Table 4).¹⁴ Most Japanese suppliers emphasized that they would not be involved in the price competition with their Chinese counterparts. But high quality also implies high costs. In an extreme case of a supplier dealing with super-hard alloy material, wear resistant tools, and molds (No.13), the price of its products is five times higher than those of Chinese competitors, but the life span extends to nearly three to five times that of the Chinese products.¹⁵ Only those Chinese firms that have a strong desire to upgrade their products and enter higher-end markets are likely to accept such expensive products. Japanese suppliers thus have an incentive to establish relational governance to help these customers strengthen their technological capabilities and create value.

4.4 Internationalization

Japanese small suppliers have strong capabilities in terms of proposing new designs and technological advice to their customers. To apply these capabilities to the Chinese market, however, they must overcome internationalization difficulties.

The first problem is exploring the great demand in the emerging Chinese market. For Japanese suppliers in the home market, marketing means maintaining stable business relationships with existing customers. Compared to Japan, the Chinese market is constantly expanding, and the number of new customers continues to increase. To

¹⁴ But this one company also stressed upon the high quality of their products.

¹⁵ The manager at this company clearly confirmed that technical service charge is considered an important part of inclusion in the expensive material price.

respond to such an emerging market, Japanese suppliers must formulate marketing strategies more proactively. Of the 15 suppliers, 11 of them adopted active methods for seeking new customers as opposed to passively waiting for customers to contact them or relying on one particular customer (see Table 4).¹⁶

A diversified customer base not only increase their sales volume but also helps suppliers to gain key insight into customer demands, especially when suppliers visit customers for face-to-face communication. This in-depth understanding helps the supplier strengthen their leading positions in the market. For example, the aforementioned loom control system maker succeeded in establishing business relationships with all major local loom makers in China, which created a strong product development advantage. A manager at this company stated as follows:

“In our company, Japanese deputy general manager and two local staffs in charge of marketing directly visit end users and loom makers to collect information. Through this method, we can directly understand customer needs, and develop new products based on this information. Therefore, even the Chinese imitation makers attempt to catch up, they will be two to three generations later than our company.”

However, maintaining a base of diversified customers also leads to higher transaction costs on top of the transaction costs generated from geographic and cultural distances (Porter, 1990: 103). As a result, Japanese suppliers further adopted a localization strategy to reduce these transaction costs. Of the 15 suppliers, 12 suppliers engaged in localization, including training local personnel (10 firms) or shifting the power of decision making from Japanese headquarters to local branches (six firms, see Table 4).

Training local personnel is particularly important to localization as Japanese staff alone cannot efficiently interact with local customers. In many cases, the local staff is required to have both marketing and technological capabilities simultaneously. With regard to this point, the aforementioned bearing supplier had a very insightful message:

“The sales of our product itself would not increase if you do not understand technology. Therefore, we always try to train staffs who (understand both technology and marketing so that) can conduct deep marketing. We invite

¹⁶ Only one supplier primarily focuses sales on a single customer.

lecturers from China and other countries to implement technical training. For some very important customers, we provide technical support from Japanese headquarters, or I myself, as a person with technological background, will visit the customer together with our marketing staff. We also consider this is an important part of our training program.”

5. Conclusion

The case of Japanese small suppliers has general relevance with regard to the study of GVCs. This case suggests that, since intermediate goods are usually technology- and/or capital-intensive, developing countries in particular are unable to promote their own competitive suppliers at the early stages of industrialization, thus making the role of capable foreign suppliers highly significant in GVCs. This also indicates that the knowledge sources in GVCs are diversified, consisting of not only huge multi-national companies as powerful buyers or key component suppliers, but also of numerous small suppliers.

Existing studies have yielded a common conclusion that when a capable foreign supplier deals with customers from developing countries, who do not have sufficient expertise, products or services are generally provided through turnkey solutions and the governance pattern tends to be market. Under such relationships, although technological barriers to entry have been greatly reduced, the space for tacit knowledge learning or capability formation is largely confined.

In contrast to the existing literature, we discovered a different approach for dealing with developing country customers. In this case, Japanese small suppliers provide not only good quality materials, parts, processing businesses, machineries, and equipment, but also various services for Chinese customers. As a result, a typical form of relational governance, characterized by long-standing business relations and significant relational asset specificity, has been established. Under this type of governance, suppliers, and customers share certain knowledge and power with each other. Japanese small suppliers actively share with Chinese customers, through active services and face-to-face communication, explicit and tacit knowledge on process improvement, quality control, and product development. In addition, they gain knowledge and information pertaining to the Chinese market by dealing with a diversified base of customers. Consequently, both Japanese small suppliers and Chinese customers have gradually gained certain powers and become indispensable to each other.

The adoption of relational governance by Japanese small suppliers results from the characteristics of the industry and the market. Japanese suppliers primarily specialize in niche markets, providing non-core parts or technologies, which are difficult to modularize. The industrial characteristics of the automotive, metalworking, and machinery industries further increase the difficulty of establishing modularity. Moreover, as products are high-quality but expensive, Japanese suppliers need to add value to the products and make themselves indispensable to their customers by providing a variety of customized services.

Japanese small suppliers overcame various difficulties of internationalization to succeed in establishing relational linkages with Chinese customers. Through active exploration of new customers and localization, they were able to apply the strong technological capabilities that they accumulated in Japan to the emerging Chinese market.

In the future, the service strategy and relational governance discussed in this case is likely to become more common in GVCs than the turnkey solution strategy. This is because the turnkey solution attempts to avoid complex coordination activities and is thus more suitable to underserved customers who have little technological capabilities. Along with economic development in emerging economies, however, per capita income will increase, which creates a larger demand for more sophisticated, higher value-added products. This requires more complex coordination activities and stronger technological capabilities (Humphrey et al., 2018). Foreign suppliers, through careful service strategy and relational governance, can help local companies to strengthen their technological capabilities so that they are able to manufacture better products.

The findings of this paper might help to assess whether GVCs will be easily transferred from China to other countries. Due to the US-Sino Trade War and the COVID-19 pandemic, an increasing number of people believe that China's position in GVCs will be significantly weakened. As emphasized in this paper, to establish relational governance in GVCs is costly and time-consuming. In addition, the long-standing and trust-based relationships between foreign suppliers and domestic customers are not easy to collapse. Using Sturgeon's term (2002), the "geographic flexibility" of GVCs is very low in the context of relational governance. In this sense, if China's domestic market continues to expand and upgrade, and more and more foreign suppliers become involved in transactions with Chinese firms, then the position of China as a demand hub in GVCs is likely to become increasingly stronger.

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Table 1 The number of customers that Japanese subcontractors always transact(%)

	1	2~3	4~5	6~9	10~19	20~49	50 and more
1995	19.7	29.7	19.5	10.3	10.5	6.2	4.1
1996	20.5	28.0	17.8	11.0	11.0	7.4	4.3
1997	20.9	28.5	18.1	9.4	11.9	7.6	3.6
1998	21.6	30.9	19.2	9.4	10.3	5.7	2.9
1999	22.9	30.3	17.3	8.4	11.8	6.0	3.5
2000	21.7	26.7	19.3	9.8	11.4	7.2	3.8
2001	17.7	28.2	17.8	12.0	12.0	7.8	4.6
2002	17.8	29.3	18.8	10.1	12.3	8.4	3.2
2003	24.9	23.3	15.9	9.8	11.9	8.6	5.6
2004	28.6	19.5	14.9	9.5	11.9	9.2	6.5
2005	20.0	21.0	15.5	11.8	13.8	10.2	7.7
2006	22.4	20.0	14.4	10.9	13.1	11.4	7.8
2007	17.2	24.2	15.9	11.5	14.0	10.5	6.7
2008	16.1	18.2	14.7	11.9	15.5	13.1	10.5
2009	17.7	20.7	14.6	12.6	15.2	10.8	8.4
2010	15.6	22.0	14.6	11.2	14.9	11.9	9.8
2011	14.6	21.4	16.5	12.5	15.8	11.8	7.5

Source: Tokyo Shoko Research (2012)

Note: this survey used the term of "parent company (Oya Jigyosha)" to denote all the major customers that suppliers always transact. However, in most Japanese literature (see footnote 1), parent company refers to one or a small number of major customers. Therefore, we translate this term into "customer" here.

Table 2 Japanese subcontractors' dependence on the largest customer in terms of transaction volume (%)

	More than 50%	10-50%	10% and below
1991	50.5	45.8	3.7
1992	50.9	45.1	4.0
1993	51.3	45	3.7
1994	52.1	44.3	3.6
1995	52.4	44.4	3.3
1996	50.4	45.9	3.7
1997	50.2	45.7	4.1
1998	50.4	44.6	5.0
1999	49.2	45.5	5.3
2000	46.3	47.2	6.6
2001	48.4	46	5.5
2002	47.7	46.6	5.6
2003	44.6	46.7	8.7
2004	43.3	47.6	9.0
2005	43	47	10.1
2006	41.4	47.7	10.9
2007	40.4	49	10.7
2008	34.1	53.6	12.2
2009	37.5	51	11.5
2010	40.2	50.1	9.7
2011	40.4	50.1	9.5

Source: Tokyo Shoko Research (2012)

Table 3 Top three determinants of foreign direct investments by Japanese small businesses (%、multiple answers)

Years	2004	2005	2006	2007	2008	2009	2010	2011
To ensure cheap and qualified labor	31.2	19.9	22.8	26.3	27.7	20.4	28.4	27.2
Strong local demands or good expectation on local demands	29.3	28.7	30.4	31.6	33.2	39.5	45.5	49.0
Follow customers and other Japanese firms	23.7	17.0	18.5	20.6	21.1	16.4	25.5	30.1

Source: Small business white paper 2014, Figure 3-4-10.

Table 4 Information on basic situation, strategy and chain governance of Japanese small suppliers

Firm number	Sectors	Year of entry	Production base in China	No. of headquarter employees	No. of local branch employees	Nationalities or regions of customers in Chinese market	Services	Japanese-style business relation	Strengths	Methods for exploring non-Japanese customers	Localization
1	Various automotive-related springs, plastic products, pipe-bending products, and machinery and equipment	1997	○	150	120	Japan, Taiwan, China, EU and US	Problem solving	-	Q	a	T,S
2	Degreasing cleaning machine	2005	○	220	165	Japan, China, Others	Technological advice	Good relation	Q,B	a	T
3	Spring washer	2003	○	214	136	Japan, China, Taiwan, Korea	Problem solving	-	Q, L	a	-
4	Industrial spray nozzles, peripherals and humidification systems	2006	-	400	15	Japan, China, Others	Technological advice	-	D,E	a	T,S
5	Electronic display and related equipment	2004	○	82	42	Japan, China, Others	Problem solving, technological advice	-	-	b	T
6	High-grade lubricant	2005	-	16	7	Japan, China	Technological advice	-	Q,D	a,b	T
7	Spring for electric and electronic parts	1996	○	72	250	Japan, EU, Taiwan※	Problem solving, technological advice	Open the cost	D,Q,C	b	T
8	Plating on precision functional parts such as mobile phones, automobiles, medical equipment, etc.	2005	○	180	80	Japan, China, Others	Problem solving, technological advice	Open the cost, long term good relation	-	b	T,S
9	Laser cutting, precision sheet metal processing	2006	○	126	100	Japan, China, EU and US, Korea, Other Aisan countries	Problem solving, technological advice	Good personal relation	-	a,b	T,S
10	Industrial cleaning machines, and cleaning liquids	2003	○	55	70	Japan, China, EU and US	Problem solving	Long term relation	F	b	-
11	Loom controller, industrial machine control panel	2002	○	44	120	Japan, China	Joint product development	-	D	a,b	S
12	Commercial fire extinguisher	2003	-	295	14	Japan, China, Others	Problem solving	Long term relation	-	b	-
13	Superhard alloy material, wear-resistant tools, and molds	2004	-	1000	7	Japan, China	Technological service, problem solving	Long term relation	Q	a,b	T
14	Bearing	1998	○	749	100	Japan, China, Others	Problem solving	Long term relation	D,Q	a,b	T
15	Precision mechanical parts	2004	○	747	85	Japan, EU and US, China	Problem solving, technological advice	Long term relation	Q,V	b	S

Source: JETRO (2009,2010,2011); Author's interviews.

Notes:

Strengths: Q= Quality, C= Cost, L= Lead time, D= Design, R&D, E= Energy saving, B= Branding, V= Variety

Methods for exploring non-Japanese customers: a = contact from customers and/or sales through a specific company; b = direct sales, multiple sales agents and/or using platforms (trade fairs, industrial parks, Internet)

Localization: T= Training local personnel; S=Shift decision making power

※: This supplier does not have local Chinese customers but clearly treats the Taiwanese customers as local companies as their technological capabilities are limited.