SME PRODUCTIVITY: CONNECTING TO THE GLOBAL VALUE CHAIN

Dr. Shandre Mugan Thangavelu

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Asian Productivity Organization

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PREFACE

The P-Insights, short for "Productivity Insights," is an extension of the Productivity Talk (P-Talk) series, which is a flagship program under the APO Secretariat's digital information initiative. Born out of both necessity and creativity under the prolonged COVID-19 pandemic, the interactive, livestreamed P-Talks bring practitioners, experts, policymakers, and ordinary citizens from all walks of life with a passion for productivity to share their experience, views, and practical tips on productivity improvement.

With speakers from every corner of the world, the P-Talks effectively convey productivity information to APO member countries and beyond. However, it was recognized that many of the P-Talk speakers had much more to offer beyond the 60-minute presentations and Q&A sessions that are the hallmarks of the series. To take full advantage of their broad knowledge and expertise, some were invited to elaborate on their P-Talks, resulting in this publication. It is hoped that the P-Insights will give readers a deeper understanding of the practices and applications of productivity as they are evolving during the pandemic and being adapted to meet different needs in the anticipated new normal.

INTRODUCTION

The role of SMEs is changing significantly in global trade and production through trade liberalization, technological innovation, and participation in regional and global production value chains. The participation of SMEs in global trade and investment has increased, especially for those in developing countries as production is now structured in highly integrated, global, complex networks of consumers and firms involved in the production of intermediate parts and components and assembly and distribution of final outputs to consumers worldwide [1].

The significance of global value chains (GVCs) in transforming trade and investment has several dimensions. It is increasing service linkages between global and domestic trade through logistic and transportation services and domestic industrial structure [2]. This is creating new competitive and comparative advantages for less-developed countries to participate in global production value chains with basic raw materials and labor-intensive production structures. The participation of developing countries in GVC activities is occurring even with low thresholds of economic liberalization. However, recent studies have highlighted that participating in GVCs offers a wide range of economic benefits in terms of increasing trade and investment, enhancing competitiveness and growth [3–6].

The structural transformation of developing countries through GVCs is also occurring with greater servification of manufacturing activities and technological changes. The production fragmentation of manufacturing is increasing servicification on both the supply and demand sides. Manufacturing activities are using more intermediate inputs such as packaging, marketing, and R&D [7]. We are also observing more service elements incorporated on the demand side in terms of after-sales service by manufacturers. The increasing service activities lead to more involvement of SMEs in GVCs.

In addition, there is greater fragmentation of service activities in GVCs, along with increased tradability of services in tourism, logistics, professional services, transportation, and aviation. Service linkages are created in GVCs by moving intermediate inputs, parts, and components among manufacturers. This increases opportunities for service linkages and SME activities in regional and global production value chains [8].

The emergence of GVC activities is increasing the role of firms including SMEs in international trade. SMEs participate in value chains through specific tasks or activities at specific stages. They no longer strive to become integrated into overall industrial activities. The new business framework for SMEs allows them to make substantial gains in terms of efficiency, productivity, and potential technology and knowledge transfers [1, 3, 9, 10]. A recent study by González-López et al. [11] highlighted that potential gains for SMEs as GVC participants include new platforms to connect with international partners and upgrading their products and processes, leading to productivity and output growth. However, the critical challenge is that only a small proportion of SMEs manage to join production networks. According to the WTO [12], about 10% of manufacturing and 3.5% of service SMEs are involved in supply chain activities. The level of integration for large firms is significantly higher (26.7% for the manufacturing sector and 36% for the service sector).

CHALLENGES AND OPPORTUNITIES FOR SME PARTICIPATION IN GVCS

There are several challenges for Asian SMEs in both regional value chains and GVCs. Recent studies including those by Abe [13]; Harvie et al. [14]; Thanh et al. [15], and Wignaraja [16] have examined the challenges and opportunities for SMEs in GVCs and empirically assessed factors shaping their roles in production networks. However, the major limitations of some prior studies were the research methods and sources of data. Some relied on surveys of limited numbers of firms to explain that the low GVC participation of SMEs was mainly due to their lack of business networks, limited financial and human capital resources, lack of production and distribution competence, and difficulties in complying with complex trade procedures. Findings from studies of that type provided insights into SMEs' challenges yet lacked rigorous econometric techniques to explain the relationships among factors hindering GVC participation.

There are several possible avenues through which SMEs could join global production networks. The international division of labor in GVCs allows SMEs to participate with low- and high-level factor intensities. They can link up with low- or high-tier suppliers according to their resources and psychological capacity in terms of the international division of labor. Resource factors include finances, technology, market access, and skilled labor; psychological factors are related to self-efficacy, business culture, desire, and commitment to high standards of product quality [17].

The business environment is equally important for effective participation of SMEs in regional and global production networks. A conducive domestic business environment is critical for effective participation of SMEs in regional and global production value chains. The WTO [12] pointed out several options and trajectories for SMEs to engage in GVCs. They can participate by either exporting goods or services directly to firms overseas or supplying inputs to local firms that produce for export. This mode of engagement is known as "forward

GVC participation." Alternatively, SMEs can participate in value chain activities by sourcing inputs from international suppliers to produce goods and services for both domestic consumption and exports. This mode of integration reflects upstream linkages with international partners and is known as "backward GVC participation."

Domestic capacity such as logistic linkages, infrastructure, access to finance, and human capital is critical for effective participation of SMEs in regional and global production value chains. Several studies cited human capital as a critical element for SMEs' participation in GVCs in terms of providing and facilitating service linkages and maintaining quality services with multinationals. Wignaraja [16] highlighted firm-specific factors including size, year of establishment, type of ownership, technological capabilities, access to finance, education and skills of employees, and education and experience of executives as key factors for SME participation in GVCs. The key factors affecting SME participation in GVCs are directly related to the level of human capital. One study on Vietnamese firms found that skills have positive, significant associations with the propensity to join production networks [18].

Studies by Duval and Utoktham [19] and Harvie et al. [20] emphasized the importance of technology, international quality certification, access to finance, and foreign ownership as key factors for SME participation in regional and global production value chains. Harvie et al. [20] found that SMEs involved in technology innovation processes were more likely to participate in and be positioned higher in global production value chains. The findings showed the importance of technology and know-how, foreign connections through ownership, and the adoption of new business ideas for SMEs to be competitive and successful in production networks. A study by Thangavelu [21] illustrated the importance of investment in human capital in helping local firms to improve efficiency and productivity, which consequently increases the probability of linking with international firms and production networks.

CASE STUDY OF INDONESIAN SMES

A recent study by Hing et al. [22] examined the importance of SMEs in Indonesia in increasing the productivity of manufacturing in GVCs. Table 1 shows the share of SME activities in Indonesian manufacturing activities. In 2017, there were around 62.93 million enterprises in Indonesia, of which 99.99% were SMEs. Microenterprises were predominant, accounting for 98.92% of total establishments. In terms of economic activities, the wholesale and retail trade sector accounted for 46% of nonagricultural Indonesian SMEs in 2016, followed by the manufacturing sector and hospitality and catering services, with each representing 17% of the total [23]. It is clear that SMEs are the key source of employment in Indonesia. About 97% of jobs in 2017 were in SMEs, with the remaining 2.7% generated by large enterprises. The highest proportion of jobs was in microenterprises.

However, the contribution of SMEs to national output is not as dominant as that to employment. SMEs contributed about 57% to GDP in 2017, compared with

TABLE 1

CHARACTERISTICS OF INDONESIAN ENTERPRISES BY FIRM SIZE, 2017.

	% of total enterprises	% of employment	% of GDP	% of exports	Labor productivity (USD)*
A. MSMEs	99.99	97.3	57.08	14.17	44,133
Microenterprises	98.92	90.8	30.06	1.26	8,400
Small enterprises	0.99	3.5	12.54	2.48	41,460
Medium-sized enterprises	0.08	3	14.49	10.44	82,540
B. Large enterprises	0.01	2.7	42.92	85.83	266,328

Source: Reproduced with permission from Hing et al. [22].
*Figures refer to average GDP per employee for 2013, cited from OECD [23].
Note: Microenterprises have assets of less than RP50 million or sales of less than RP300 million; small enterprises have assets of RP50–500 million or sales of RP300 million–2.5 billion; and medium enterprises have assets of RP500 million–5 billion or sales of RP2.5–50 billion.

42.9% by large enterprises. This reflects a significant gap in labor productivity. The average value added per employee by SMEs in 2013 at current prices was USD44,133, which was six-fold lower than that by large enterprises. The lowest productivity was found in microenterprises, showing that productivity levels increase with enterprise size. SMEs' participation in export activities was significantly less. The share of microenterprises in total exports was 1.26%, while that for SMEs was 2.48% for small and 10.44% for medium-sized enterprises, respectively. The remaining 86% of exports was contributed by large enterprises. The underrepresentation of SMEs in export activities is a common pattern in most developing countries, since exporting requires significant initial investment in foreign market research, business networks with international partners, and product standard compliance. These require financial resources and technical capabilities, which are often major constraints faced by SMEs.

ROLE OF SMES IN SERVICE GVCS

GVCs have increased service activities between and within countries engaged in regional and global production activities. Manufacturing is becoming more "servicified" due to GVC activities, which increases intra- and extrafirm linkages and hence service transactions. The greater dynamism of GVCs results in greater demand for service linkages in the fragmented production networks, as more parts and components move through them. Several studies such as those by Baldwin et al. [24] and Miroudot and Cadestin [25] described services as a "glue" in GVCs linking one production component to another; while Thangavelu et al. [26] argued that firms use more services to participate in GVCs.

Servicification of manufacturing pertains to three dimensions of linkages: 1) the increasing use of service inputs in production processes; 2) the shift toward service activities in manufacturing; and 3) the bundling of services with products to add value and deepen customer relationships. SME activities in services in manufacturing have intensified over the past decade. The effects of services are increasing both supply-side and demand-side activities in the manufacturing process, increasing the linkages between manufacturing and services. From the supply side, the intensity of service factors used in production and service-based technology adoptions has intensified. In particular, GVC activities have increased the service linkages between regional and global manufacturing activities. Services have also increased the profit margins in manufacturing by building up the customer base through ICT and social technology platforms.

There is strong evidence of the supply-side effects of services in manufacturing as more manufacturing firms use more service inputs in their production processes. Firms acquire more business services, ICT, and financial services to coordinate and operate production and they consume transport, logistics, and wholesale and retail services to ease the flow of products from one stage of production to another. Some of these services are in-house, while others are outsourced. Consequently, the aggregate share of service inputs in manufacturing is rising in most parts of the world, including in OECD countries [25], in Asia [24, 26], and most individual economies.

In addition, we are also observing demand-side effects as manufacturing firms have integrated services into their core products. This strategy is prevalent in almost all industries in most parts of the world including OECD economies, Europe, North America, and Asia [3, 24, 25]. Vandermerwe and Rada [27] termed this phenomenon "servitization" and labeled it a new marketing strategy adopted by high-performing companies to differentiate their products and enhance their competitive edge.

Firms are also becoming more servicified to enhance productivity and efficiency. Efficient, technology-enabling services such as transport and logistics, telecommunications, and business services can help firms save time and achieve efficient production coordination, while technology and R&D services are essential for firms to improve production processes and efficiency. Enabling services are also essential for firms to establish and manage international production networks, which in turn drive greater efficiency and productivity. Moreover, firms can achieve static gains from better reallocation of resources by outsourcing service activities and specializing in core manufacturing activities.

KEY RECOMMENDATIONS

The role of SMEs is critical to increase the number of domestic industries involved in GVC activities. The more competitive domestic industries are in regional and global production activities, the more sustainable and inclusive domestic economic growth can be.

Domestic capacity in terms of infrastructure, human capital, access to finance and technology, and innovations by firms is critical for SMEs to participate in regional and global production value chains. The GVC framework allows firms to participate based on international divisions of labor, and hence SMEs can be involved in regional and global trade with very low transaction and entry costs. However, there is a critical need to support SMEs in terms of domestic capacity.

The role of technology and innovation will be critical for COVID-19 pandemic recovery. Technology adoption and innovation by domestic industries will be needed for their inclusion and positioning in GVCs. For developing countries, domestic collaboration and creating linkages will be important. Domestic linkages can be created through public–private partnership (PPP) frameworks, where the two sectors play important collaborative roles to increase backward linkages between domestic and multinational firms. PPP frameworks can also help create more domestic capacity and absorptive capabilities for SMEs in terms of promoting incubation and acceleration facilities to support startups and piloting technology and innovation parks and clusters to foster collaboration and technology/knowledge transfers between large firms, SMEs, and higher education/research institutions.

It is also important to create an enabling business environment for innovation by increasing the absorptive capacities of firms, supporting technology transfer, and fostering the adoption of domestic technologies. These require increased access to finance for innovation activities, including leveraging investments from the private sector, attracting funding from donors, and incentivizing foreign direct investment that supports the building of domestic technological capabilities.

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