



# Solow Growth Model: Encourage SMEs to Provide Information and Communication Technology to Global Value Chain

Muhamad Nurdin Yusuf<sup>1,\*</sup>, Aneu Yulianeu<sup>2</sup>, Dyah Ciptaning Lokiteswara Setya Wardhani<sup>3</sup>

<sup>1</sup> *Agribusiness Department, University of Galuh, Ciamis, Indonesia*

<sup>2</sup> *Informatics Management, STMIK DCI, Tasikmalaya, Indonesia*

<sup>3</sup> *Finance and Banking, STIE Latifah Mubarakiyah, Tasikmalaya, Indonesia*

\**Corresponding Author. Email: muhamadnurdinyusuf@unigal.ac.id*

## ABSTRACT

The foundation of the SME growth program is the benefits by paying attention to the role of SMEs in economy. Development to encourage SMEs global competitiveness can be done with pay attention ability of SMEs to fulfill the needs of domestic market and as a substitute for imports

The research method used a normative approach by examining how SMEs develop through technology and their contribution to GVC. Analytical descriptive is used to make specifications in research, and it is hoped that this analytical will have results that describe how the flow of MSME can contribute to GVC

The result is Development SME partnerships can be adapted to potential sectors and availability of Large Enterprises in region. In this case, the active role of Large Enterprises as buyer is necessary to build a Local Value Chain with SMEs in area. Thus, SME partnerships with large Enterprises does not only aim to strengthen the value chain export in GVC at the same time

**Keywords:** *SMEs, ICT, Global Value Chain*

## 1. INTRODUCTION

The scale and maturity of the business depends on how much MSME can have a significant influence on its existence. If MSMEs can produce products that are liked by every customer, it is certain that their business scale will also increase in size over time. Business maturity depends on the process in which the business has carried out its mission, strategy, core beliefs, and core values in achieving its business vision. Usually MSMEs do not have the five things above clearly and in writing. Therefore, it is highly recommended to set clear and reasonable goals. In addition, GVC is closely related to networks between foreign companies. When viewed from the perspective of MSMEs, there is an imbalance in linkage with other large companies. What can be done to improve relations with foreign partners is through the promotion and innovation of superior products which are the attractiveness and characteristics

of a country, which in other words will refer to business specialization.

Overall, small and medium-sized subcontractors that typically serve local and national markets face a significant challenge of global value chains. SMEs are nevertheless under pressure to adhere to the global standards for technology, quality, delivery, and after-sales support even when they choose to stay domestically rather than travel with their contractors. Additionally, small subcontractors must modify routines and processes created at the local, regional, or cluster level to conform to management standards imposed by foreign purchasers.

Additionally, a network have grown and importance in global value chains (GVCs) as a mechanism of coordination between firms. This mechanism was previously more polarized between vertical integration on the one side and market-based

Solow Growth Model: Encourage SMEs to Provide Information and Communications Technology (ICT) 535  
has strong chance in building a Nation's economy but they are blind to know about global's marketing. A research conducted by [5] shows that availability of many optional ways of marketing, SMEs tends to keep doing the marketing privately.

relationships on the other. The important distinction is that while this kind of supplier-firm connection isn't based on ownership, it nevertheless indicates a high level of coordination.

A range of possibilities exists in network interactions, ranging from modest to high degrees of coordination and power imbalance between customers and providers. Lead firms regulate chain by establishing requirements for involvement of the other agents in chain, depending on criteria like the ownership of brand names, proprietary technology, or the unique knowledge about certain product markets.

One of the efforts to increase the competitiveness of SMEs is to take advantage of opportunities for inclusion within global markets through GVC and Global E-Commerce. Growing development of domestic and global e-commerce also opens opportunities for wider market access for SMEs. Gross Merchandise Value (GMV) of e-commerce in six ASEAN countries is estimated growing at a CAGR of 32% in 2025, with Indonesia being the main source of this growth. This is supported by the increasingly massive smartphone penetration and the increasing number of internet users

Company's marketing must be concerned about their marketing activities in order to gain many possibilities for increase sales of their business. By using good marketing, businesses can enhance their business performance [6]. SMEs have to good marketing practice they need to have a positive attitudes and vibes towards the marketing. The most common problem that SMEs facing is the access and knowledge about global's market. Therefore, good marketing system is needed in the SMEs industry because marketing is a key for SME to acknowledge. SMEs must allocating financial resources correctly into marketing activities, and bet it can give competitive advantage to the company over their competitors.

SMEs need to understand how to analyze the market opportunity and availability of market information with choosing target market and choosing appropriate marketing practice for their type of business.

## 2. FORMULATION OF THE PROBLEM

From the introduction above it can be formulated how to Encourage SMEs to Provide Information and Communication Technology to Global Value Chain

## 3. RESEARCH PURPOSES

To know the Taxonomy of Encourage SMEs to Provide Information and Communication Technology to Global Value Chain

## 4. THEORITICAL REVIEW

### Small and medium-sized enterprises (SMEs)

Research by World Bank [1], SMEs have contributed 60% in the total employment and 40% in Gross Domestic Product. With that impact, governments needs to find ways to improve SME's [2] and according to research by [3] SMEs nowadays have been growing not just nationally but also internationally. With innovation of new ways to conduct marketing, there are many opportunities that SMEs has be better ways of marketing and improve their marketing skill as a whole [4]

Instead SMEs tends to acceptance barriers when it comes to adopting new technologies and new communication channels. Important to know that SMEs

### Information and communications technology (ICT)

After allocating financial resources correctly into marketing activities, SMEs can give competitive advantage to organization over their competitors. And then using multiple resources are abundant on internet. Meanwhile ICT can give SMEs many information for Market. Describing about market and everything can occur such learning and selling or buying. Research by [7] indicated that through ICT, learning can occur any time and anywhere. Based on ICT, learning and teaching no longer depend exclusively on printed materials. And likely target market to, for educational purpose ICT therefore provides both learners and instructors with more educational affordances and possibilities. Since learners and sellers are actively involved in the learning processes in ICT classrooms, they are authorized by the teacher to make decisions, plans, and so forth [8].

### Global Value Chain

Many Countries have to knowing about opportunities that GVCs offer and make appropriate some regulation to mitigate risks and see opportunity through GVCs to push employment and productivity in all their production. Research shows that GVC integration leads to higher net jobs but lower job intensity [9]. Job seeker and labor productivity growth are sometimes enables firms to produce a larger amount of value added without necessarily

increasing the number of workers at the same rate and it is good for static productivity effects.

LMICs have to focus on specific tasks in the value chain rather than producing the entire product, thereby lowering the threshold and costs for industrial development. [10]. GVC enabled to know how industrial development from high income countries to low income. LMICs is a key factor in determining the role of GVCs in industrial development. LMICs can now industrialize by joining GVCs without the need to build their own value chain from scratch, as Japan and the Republic of Korea had to do in the 20th century [10]

**5. METHOD**

This research method uses a normative approach [11] by examining how SMEs develop through technology and their contribution to GVC. Analytical descriptive is used to make specifications in research, and it is hoped that this analytical will have results that describe how the flow of MSME can contribute to GVC

This method classifies data and information and then interprets it to give meaning to sub-aspects that are related to one another. After analyzing all aspects, the meaning of the relationship between each aspect is understood and carried out inductively for all aspects that are the main problem in the research so that the results are fully illustrated. Subsequent research is possible to be more focused and more specific. The library research technique used in this study is research on secondary data. Private and public data are secondary types of data that can be researched. In this study the data used is public. With the descriptive method used in this study, data is collected systematically by classifying the collected data so that it is easy to analyze and construct which is then described specifically from the data

**6. RESULT AND DISCUSSION**

The effectiveness of corporate operations provides a competitive edge for the Global Value Chain business model now under development. This is accomplished by risk sharing and specialization among capital owners. Companies can also boost their output levels if investors are ready to take on significant risks [12]. In order to join the global supply chain and avoid having to wait decades to develop their own nation, the Global Value Chain may also reach trailing nations..

**Indonesia in the Global Value Chain**

Figure 1 GVC Participation Rates in Several Countries

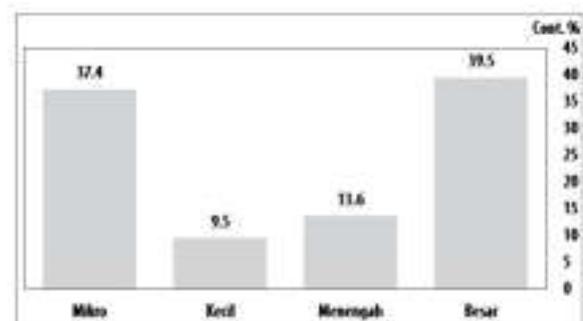


Source: Bank Indonesia MSME Development Department 2016

In comparison to Southeast Asian nations like Malaysia, the Philippines, Singapore, and Thailand, Indonesia's membership in the Global Value Chain until 2009 was still very low. This is due to Indonesia's lagging behind in three aspects determining the level of state participation in GVC, namely logistics, economic openness, and the reliability of communication technology [13]. In addition, the level of employee wages which is still quite high can also be an obstacle to the company's production efficiency. In short, the unequal standards and specifications for Indonesian products and international markets are the cause of the suboptimal performance of Indonesian businesses in meeting global consumer demand.

The contribution of MSMEs as the backbone of the economy has the potential to continue to be improved. With a workforce absorption of 96.9% and dominating the number of business units (99.9%) in Indonesia, the contribution of MSMEs to GDP is only 60.51%, with an export share of only 15.65% [14]. Based on the business scale, the added value of MSMEs is still limited, especially seen in Small and Medium scale businesses. This indicates the existence of a hollow in the middle phenomenon, namely the added value of SMEs businesses. In 2019 The Ministry of Cooperatives and SMEs noted that SME are expected to contribute only 9.5% and 13.6% of GDP respectively, still much smaller than Micro and Large Enterprises which amount to 37.3% and 39.5% ( Figure 2)

Figure 2. Value Added of MSMEs and BE to GDP



Source: Kemenkop UKM, 2019

**Global  
 Market**



Source: Bank Indonesia

From various modes of SME integration to enter the global market, lessons learned regarding the key to success of SMEs in integrating into the global market through GEC and GVC. A study conducted by Bank Indonesia [13] shows that the factors supporting the success of SME integration through GVC mainly lie in:

- i) the existence of SME coaching by partners;
- ii) commitment to comply with QCD standards;
- iii) commitment to human resource strengthening; as well as
- iv) facilitating business matching between SMEs and LME.

Meanwhile, supporting factors for the success of global e-commerce integration include [13]:

- 1) omnichannel digital marketing through digital marketing diversification and strengthening digital branding;
- 2) comprehension of market data and export processes;
- 3) curation support and export facilitation by the marketplace; as well as
- 4) reliable quality and sufficient SME production capability [13].

Related K/L legislation, initiatives, and assistance from the financial side must all be in place to support these success criteria. Partnerships in the Global Value Chain Small and medium-sized businesses (SMEs) can join the GVC by forming alliances with large and medium-sized export-oriented companies. When SMEs enter the global market, they often form alliances with large and medium-sized businesses and join the supply chain or local value chain (LVC). To make SMEs more competitive, one way to construct a Global Value Chain (GVC) is to strengthen the role of SMEs in developing LVC [13].

**DISCUSSION**

In addition, Indonesia's MSME export share is still relatively low compared to peer countries, reflecting low global competitiveness. Indonesia's MSME export share in 2018 is 14.4% of Indonesia's total exports was lower than Malaysia and Thailand which had MSME export shares of 17.3% and 28.7% respectively (Graph 2). For this reason, increasing the MSME class, especially SMEs is an important agenda to prioritize. [13]

SME taxonomy Access to the International Market SMEs can reach international markets in a variety of ways, including direct exports<sup>13</sup>, indirect exports through partnership programs (GVC), and e-commerce use (GEC). There are at least four partnership patterns that can be distinguished in the context of integrating SMEs into GVC [13], namely:

- 1) GVC-1 is a SME partnership pattern with domestic companies affiliated with foreign companies or joint venture companies;
- 2) GVC-2 is a SME partnership pattern with domestic companies that have partnerships in the form of non-equity modes (NEM) with foreign companies;
- 3) GVC-3 is a SME partnership pattern in the form of direct NEM with foreign companies; and
- 4) GVC-4 is a SME partnership pattern with domestic companies with a sell-out mechanism.

A contractual agreement between SMEs or domestic companies and multinational corporations constitutes the NEM partnership pattern (MNCs). After COVID-19, this pattern, in addition to FDI (direct investment, which needs a physical investment from a global MNC) and direct exports, is one of the most important partnership patterns (trade). According to Bank Indonesia's assessment, SMEs can now enter the global market through the NEM partnership pattern. They can do so either directly or through domestic or local businesses (GVC-2 scheme) [13]. Meanwhile, at least five business models have been identified for the integration of SMEs into GEC [13], including:

- 1) Global e-commerce with a B2C (Business to Consumer) scheme on a retail scale;
- 2) Global e-commerce with a B2B (Business to Business) scheme on a wholesale scale;
- 3) Global e-commerce with a B2B (Business to Business) scheme on a wholesale scale;
- 4) Global e-commerce with a B2B (Business to Business) scheme on a consignment mechanism; and
- 5) Global e-commerce with a B2 [13]

Bank Indonesia's assessment shows that partnerships with Large/Medium Enterprises or LVCs can be initiated with the motivation to carry out import substitution. LVC is considered to be able to provide benefits for SMEs including market exposure which can later become a learning stage in terms of increasing capacity to become part of GVC. Opportunities for SMEs to substitute imports have increased after the COVID-19 outbreak, in line with several countries implementing cross-border restrictions.

This opportunity has been used, for example, by one of the SMEs in the manufacturing sector, namely when cross-border restrictions were implemented in 2020 in several countries. When the restriction was implemented. This momentum was used by machine manufacturing SMEs to supply machine spare parts to large industries and managed to double the income of SMEs during the pandemic. This shows that SMEs can participate in the program to increase import substitution, namely by encouraging the achievement of the government's import substitution target of 35% by 2022 [1].

In addition, to increase in income derived from import substitution has also encouraged SMEs to upgrade and reduce hollow in phenomenon. SME partnerships cannot be separated from the LVC development initiatives of Large/Medium Enterprises. Large/Medium Enterprises play an important role in building partnerships with SMEs, including as buyers of SME products, provision of assistance, and marketing facilitation. Through this facilitation, SMEs and Large/Medium Enterprises as buyers obtain various benefits.

One of the prerequisites for SMEs in partnering with Large/Medium Enterprises is the QCD standard. As buyer, LME will generally look for SMEs that are capable of producing high quality products (Quality) at low cost (Cost) and timely delivery (Delivery). QCD fulfillment by SMEs becomes very important when it becomes the supply chain of large industries. The QCD aspect, including quality management certification, can be the focus of the SME mentoring program to partner with Large/Medium Enterprises.

In addition, there is an urgent need for governmental assistance to promote MSME partnerships, including incentives for large and medium-sized businesses to collaborate, such as Job Creation Law and PP No. 7 of 2021 describe concerning Ease, Protection, and Empowerment of Cooperatives and MSMEs. By requiring partnerships with MSMEs to submit investment or fiscal facilities. And also describe in Presidential Decree No. 10 of 2021 concerning the Investment Business Sector encourages partnership acceleration in addition to providing benefits for ease of doing business. Integrating via international e-commerce Cross-border e-commerce is essential, as seen by the rising value of retail transactions worldwide.

E-commerce use also lowers transaction costs, facilitates SMEs' integration into international markets, and can increase output. A number of e-commerce platforms have also introduced features that concentrate on selling local items to the worldwide market, both owned by the private sector and associated Ministries/Institutions. However, it is believed that e-commerce is only occasionally used for export.

## 7. CONCLUSION AND RECOMMENDATION

### CONCLUSION

We discovered to increase the level of GVC participation has some factor in common for a SME to participate in GVCs as noted above. Based on these, we can provide a number of suggestions for businesses and governments to help them engage in GVCs and grow their involvement. Developing and enhancing technology capabilities is crucial for businesses, especially SMEs. Increasing labor productivity makes a significant contribution to achieving these two goals, which is closely related to the previous point.

### RECOMMENDATION

We would like to draw attention to the study's limitations so that a potential future research agenda might be created. Therefore, nation studies should be used in conjunction with this research. Inability to investigate causal link between business features and GVC membership is another issue brought on by the lack of data. One such is the potential bidirectional causal link between labor productivity and GVC membership. We must conduct a panel data analysis to address this issue, which calls for the necessary data.

### REFERENCES

- [1] W. Bank, "publication," 20 November 2020. [Online]. Available: [www.worldbank.org](http://www.worldbank.org).
- [2] L. A. R. R. N. ., A. N. Ndeye Ndiaye, "Demystifying small and medium enterprises' (SMEs) performance in emerging and developing economies," *Borsa \_Istanbul Review*, pp. 269-281, 2018.
- [3] J. H. L. E. S. K. J. M. S. P. Child, "SME international business," *Journal of World Business*, pp. 664-679, 2017.
- [4] M. L. F. Dahnil, "Factors Influencing SMEs Adoption of Social Media Marketing," *Procedia - Social and Behavioral Sciences*, pp. 119-126, 2014.

- [5] D. M. Ioanid, "The impact of social networks on SMEs' innovation potential," *Procedia Manufacturing*, pp. 936-941, 2018.
- [6] T. K. Wirtz, "The role of marketing in today's enterprises," *Journal of Service Management*, pp. 171-194, 2014.
- [7] A. Castro Sánchez, "Teachers' opinion survey on the use of ICT tools to support attendance-based teaching," *Journal Computers and Education*, pp. 911-915, 2011.
- [8] L. H. X. H. Zhihong Lu, "A research on a student-centred teaching model in an ICT-based English audio-video speaking class," *International Journal of Education and Development using ICT*, pp. 101-123, 2010.
- [9] M. F. J. H. C. H. M. M. O. D. A. R. H. Cali, "'The labor content of exports database'," *World Bank Policy Research Working Paper*, pp. 76-81, 2016.
- [10] Baldwin, "GLOBAL SUPPLY CHAINS: WHY
- [11] B. Sunggono, *Metode Penelitian Hukum*, Jakarta: Rajawali Pers, 2006.
- [12] L. Gereffi, "Global Value Chains in a Post-Washington Consensus World," *Review of International Political Economy*, pp. 9-37, 2014.
- [13] BI, "Laporan Nusantara," Bank Indonesia, Jakarta, 2021.
- [14] Kemenkop, "UKM," Kementrian Koperasi dan Usaha Kecil dan Menengah, Jakarta, 2019.
- [15] M. P. Izvercian, "Marketing Practices in SMEs. Case Study: Romania vs. Malta," *Procedia - Social and Behavioral Sciences*, pp. 135-141, 2016.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

