Global Value Chain evolution, feature and significance: Literature Review

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Abstract
In every firm, products are produced through the collective value adding activities starting from product concept development to product delivery to the consumers and value chain describes these whole collective activities of firms which is said to be “global” (Global Value Chain) when it involves different actors from two or more different countries.

With the rise of the Global Value Chains paradigm, it is believed that the integration of developing countries into global production and marketing network is an opportunity for the advancement of their economic competitiveness and for the better access to global markets. And regarding the opportunities of GVCs for the developing country, several positive aspects of it have been mentioned many times in many research and reports like, advantages of concentrating in a specific production process instead of building the whole production process, employment opportunities creation through participating in GVCs. However, there is still a literature gap related to the social upgrading gained and social impacts of GVC on developing country. Therefore, this literature review aims to solve at the aforementioned information piece mill on GVC and avail comprehensive information on GVC with the special consideration of developing countries. For the purpose, desk review has been conducted on different published and unpublished research works with regards to GVC. To this effect, this paper through the intensive literature review on the GVC explored the literate gaps and has contributed to knowledge in the GVC relating to social upgrading and impacts in developing countries. At the result of this review social policy is needed strongly on equally distribution of economic and social opportunities outcomes from GVC participation.
**Key words:** Global Value chain, Social, Upgrading, Developing countries
1. Introduction

Nowadays, a production of a good or even service involves an increasingly complex process with intermediate inputs and supporting activities sourced globally from different countries wherever it is most efficient to do so and these complex international production arrangements is known as global value chains (GVCs) [1], and it needs to have an understanding on how GVCs work, how it affects economic performance of the participant country and organization, and how to reap greater benefits from them. This paper is a review on the general evolution, feature, economic benefits and impacts of GVC with related to developing country and to identify literature gaps related to social upgrading through an intensive review of different literatures on the area.

1.1. Value Chain

Value chain is defined as a collective activities of a firm to bring a product or service from its conception to the final destination through different phases of production [2]–[6]. These activities involve a combination of product concept development, physical transformation of raw input into final product, delivery to final consumers, and even the final disposal of used products which are described as a value chain [6].

On the other hand, in some perspectives, (UNIDO, 2009), value chain is considered as a set of businesses, activities and relationships engaged in creating a final product (or service) which indicates that a product is rarely consumed in its original form but becomes transformed, combined with other products, transported, packaged, marketed etc., until it reaches its final consumer. In this sense, the term value chain is used to describes how producers, processors, buyers, sellers, and consumers separated by time and space gradually add value to products as they pass from one link to the next in the chain[7].

In general terms, value chain is used as a key framework to understand how inputs and services are brought together and then used to grow, transform, or manufacture a product; how the product then moves physically from the producer to the customer; and how value increases along the way [4]. Inputs, transformation processes, and outputs involve the acquisition and consumption of resources-money, labour, materials, equipment, buildings, land, administration and management. And how value chain activities are carried out determines the
competitiveness level of the organizations [8].

Figure 1. shows generalized value chain process in the organizations and the flow of physical material and financial on in the value chain activity and companies’ competitiveness at the local and global level depends on how they effectively and efficiently handle these activity flow.

Fig.1 Value chain system (source Author drawing)

1.2. Value Chain activities

Michale P introduces the concept of value chain for the first in 1985 as a basic tool of examining the performance and way of interaction of all activities of a firm and for analyzing of the source of firm’s competitive advantage. In his value chain model, Porter distinguished the activity components of the organization as primary activities which are related to the production process and supportive activities to added value in the business performance and to assess the contribution of various firm activities [9].

In the context of today’s globalized markets, value chain approach is used intensively both by private sector agents and government and development agencies to identify options for industrial development and implement development programmes because of its capacity to deal with a new business environment in industrial development (UNIDO, 2009).

Fig.2 Value chain activities in the organizations (source Author)

As it has been tried to be illustrated in Figure above (Fig. 2) the competitiveness level of any firm in the global or local market depends on how the firms effectively perform them and integrate them for value addition in the process.
1.3. Global Value Chain

A value chain identifies the various steps of firms’ activity to bring a product or a service from its conception to its end use by final consumers [3], [10], [11], those activities have become increasingly fragmented across the globe and between firms which allows the various tasks along the production chain to be carried out in distant locations, depending on their respective comparative advantages and it is referred to as global value chains [10].

As per Gereffi stated in his article [12], global value chains can also be understood as networks of functionally interrelated producers and buyers that are engaged on a global scale in processes of value creation as products pass across borders and between different actors in the chain. And the importance of global value chains will continue to increase in our increasingly interdependent economic world, and the need to have a better understanding of all of its implications, including in particular for trade policy, is a critical task for policymakers to improve the competitiveness of their country in the global value chain [13].

2. Methodology

This literature review has been done through the systematic literature review method on the area of Global value chain to identify the theoretical gaps in the area, specially related to social upgrading area in the context of developing country. Articles, books from different sources and GVC reports from different organization related to the developing country have been reviewed intensively on the areas of GVC evolution, feature with the special consideration related to developing country to identify the literature gap.

3. The Evolution of GVCs

The world economy has undergone significant transformation over the past three decades. And the evolution of global value chains can be traced back to the dates of 10970s where shifting of in national development strategies from import-substituting industrialization (ISI) to export-
oriented industrialization (EOI) happened throughout the developing world [12].

In the 1960s and 1970s the prevailing development strategy was import-substituting industrialization (ISI) where the manufacturing sectors in ISI countries were simply importing intermediate goods rather than reducing imports altogether and it was well established in Latin America, Eastern Europe, and parts of Asia since the 1950s [14]. But at the end 1970s there has been a widespread shift in national development strategies from import-substituting industrialization (ISI) to export-oriented industrialization (EOI) throughout the developing world with some work on the “commodity chain” (Bair, 2005) and first emerged as regional supply chains in East Asia, with Japanese investors taking the lead in the region and triggering flying pattern of investments and trade [5]. And in a continual process pure GVCs raised in a period of falling trade barriers, the emergence of the World Trade Organization (WTO), and the policy prescriptions associated with the “Washington Consensus”—i.e., that governments had only to provide a strong set of “horizontal” policies and be open to trade in order to succeed.

Nowadays, most production processes are vertically fragmented worldwide, i.e., goods and services are produced in separate stages located in different countries and are assembled either sequentially along the supply chain or in a final location. The rise of GVCs interlinks with the strong expansion of international trade, especially of parts and components, and foreign direct investment flows, mostly by multinational corporations, which are the key players in the operation of these networks. As a consequence, GVCs produced a deep and lasting impact on the world economy, affecting competitiveness and macroeconomic developments and strongly increasing the economic interdependence between countries [15].

3.1. Main Features of Global Value Chain

In global value chains (GVCs), each link of the chain performs an activity, and different firms add different value at each stage of the production or service process where they can get more competitive advantages and they are an important GVC unit of analysis for understanding enterprise competitiveness [16].

The blow figure (Fig. 3) is to summaries the main activities in the Global value chain and to indicate the governing factor and the upgrading processes in the chain. Countries
can participate in the chain at different levels and can harvest the benefits from participating in the global value chain through the upgrading process depending on the level of their participation.

In the activities of GVCs there is a flow of physical products which helps the participating country or organizations to upgrade their supply chain system for better competitiveness, flow of finances to improve their financing system and the flow of knowledge which includes technology and knowledge transfer which lead the participants to better innovativeness.

Compared to GVCs, companies in the developed part of the world are preferred to outsource an increasing share of their non-core manufacturing and service activities both domestically and abroad from where they get the competitiveness advantage [17] and most of the time firms in developing countries are the providers of these non-core manufacturing activities.

Fig. 4 Main features of Global Value Chain

3.2. Value chain Mapping

A good place to start the value chain analysis is to ‘map the actors in the chain’, to build up an understanding of the different players or actors in the input and product output chains and the relationships between them, along with the factors that determine how well or badly the chains are working. The value chain mapping process usually begins by grouping the company's main supplier groups with customer groups that represent the company's key business inputs and outputs. Looking at top suppliers and significant product lines is often a good place to start for companies in manufacturing.

Value chain mapping is initial to identify the actors and then trace and map product flows within the chain and to give an illustrative representation of the identified chain actors and the related product flows. A mapped
value chain will help the analysts to know better the actors in the chain, their relationships, and economic activities at each stage with the related physical and monetary flows [18].

Fig. 5 Mapping in the Value Chain

3.3. Global Value Chain Governance

Governances is a dynamic feature of value chains referring to the power relationships among the value chain actors (buyers, sellers, service providers) which operate within or influence the range of activities required to bring a product or service from inception to its end use. It is about power and the ability the leading actors in the value chain to exert control along the chain at any point under which other actors in the chain operate with the key parameters and specifications [19]–[21]

The concept of GVC governance is introduced by Gereffi in 1994 and it is currently a central core concept for global value chain approach to determine an authority and power relationship in the chain that determines how financial, material, and human resources are allocated and follow within a chain, and to set strategic parameters on: ‘what’ or ‘how’ a product/service should be produced as well as ‘when’, ‘how much’ and even ‘at how much price’ [22], [23]

Gereffi in his research (Gereffi 1994), distinguished between two types of chains: (a) producer-driven chains where the lead company is the producer and (b) buyer-driven chains where the lead company is the retailer or branded. But depending on the typology of the governance, whether it is producer driven or buyer driven there are five basic types of value chains governance in which the ‘Captive’, and ‘Hierarchy ‘value chains are demand-driven; the ‘Modular ‘and ‘Relation ‘chains resemble most of what used to be producer-driven chains. The ‘Markets ‘chain type tends to be the least driven.

Typology of Global Value Chains

Market: Transactions easily codified, specifications relatively simple, and suppliers capable of producing the products. Little chain coordination required. Switching costs are low for both suppliers and buyers.

Modular: Suppliers make products to specifications of buyers. Modularity rises with increasing codification of specifications (through technical standards). Suppliers
capable of internalizing tacit information. Coordination and switching cost remain low.

**Relational:** Codification difficult, which makes interactions complex. Suppliers and buyers are mutually dependent because of complexity. Relational value chain governance is to be expected because a lot of tacit knowledge must be exchanged. Outsourcing is likely to benefit from capabilities of supplying firm. Mutual dependence regulated through reputation, social and spatial proximity, family and ethnic ties, etc.

**Captive:** Ability to codify and complexity product specification are high, but supplier capabilities low, then governance tends toward captive type. High degree of monitoring and control required of the lead company. Suppliers are dependent on buyers. The chain is ‘captive because switching costs for suppliers are high.

**Hierarchy:** Products are complex and specifications cannot be codified. Capable suppliers cannot be found, then core firms develop products in-house. Vertical integration. Dominant form of governance: managerial control, from managers to subordinates and from HQs to subsidiaries and affiliates.


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4. **Participation in Global Value Chain**

Global value chains (GVCs) are a defining feature of the current wave of globalization and a reflection of the increased degree of interconnectedness of economies and increased participation into GVCs is becoming one of the top priorities in many economic development strategies across the world (Joaquin Salido, n.d.), though, not all countries, nor all firms within countries, participate in and benefit equally from GVCs [24].

Countries’ participation in GVCs can be facilitated either through the entry of domestic firms (moving up in the value chain) or by attracting foreign investors (which includes the option of direct access to foreign know-how and technology) [25]

The general consensus GVCs is that when countries are participating in it, it will lead them to economic development through the spillover of Capita, technology, skill and Knowledge between the participating countries in it [26]–[28]. And GVC participation of a country or an industry is analyzed in two perspectives which are the Forward and Backward participation.
Forward linkages or downstream participation: which is created between a supplying industry and a purchasing industry that uses the supplier’s output as input and internationally understood as the linkages between an exporting economy and an importing economy whose industries use the exports as inputs to generate output for exports [28].

Backward linkages or upstream participation: linkages between an importing and an exporting country which is created between a purchasing industry and a supplying industry. In other words, the industries in the importing country import intermediate products to be used in its exports [28], [29].

And the countries’ upgrading benefits from GVCs is evaluated depending on to what extent they participate in these two-participation perspectives.

4.1. Developing countries in Global Value Chain

Recent studies have witnessed an increasing integration of developing countries into global value chains (GVCs) [30]–[33]. And this growing participation in global production sharing has raised hopes for economic and social upgrading within developing countries value chains. However, some studies indicate that the social consequences of participating in GVCs are not always positive, though they have received considerably less attention in the literature specially relating to the developing countries [32]–[34].

In the process of value creation in GVCs, there are different stages to create value starting from concept development to final consumption and countries can participate at different levels to added value in the process [32] because of the differences in comparative advantages across countries in GVCs. Most of the time, developed countries tend to engage in high-end and intangible production activities (such as R&D, design, brand building in the pre-fabrication stages and after-sales services and marketing in the post-fabrication stages), and they outsourced the manufacturing jobs from low-technology, low-wage nations. Developing countries on the contrary, tend to focus on low-end and tangible production activities such as manufacturing and assembly. These difference the worries of the two countries in the upgrading process [32] [25].
The above concept shows that GVCs can create an opportunity for the developing country to diversify their export market to gain the economic upgrading but it doesn’t mean they also can attain the same with related to the social upgrading. And there is a literature gap in this consideration still and measuring of GVC in terms of social upgrading and social impacts need more attention to work on it.

4.2. Upgrading issues Global Value chain

Conceptions about what it means to be involved in global trade and the global economy have changed substantially in recent years. The traditional image of export activity for developing country firms would be an enterprise that designs, makes and exports a product. Now, the developing country exporter may work to a design supplied by an international buyer. Or the exporter may just produce a small part of the final product. Firms in developing countries may act as the organizers of geographically and organizationally fragmented supply systems [35].

GVCs have attracted much attention from economic development theorists as they offer new paths to improve the competitiveness of low and middle income countries [36] having the ‘economic upgrading’ as a central core. However, economic upgrading do not always translated to social upgrading which captures the living standards and social well-being concept.

While there is a wide variety of literature and researches detailing with the benefits participating in GVCs (sample articles are mentioned in table 1 below), little is known and have been researched about the benefits of social upgrading and the impacts of GVCs on the social issues across the entire economic structure. Therefore, it is required to develop a methodological which accounts the relationship between two upgrading system.

Although it is believed that GVCs offer new pathways of development for the developing country the benefits are required to an attention for both economic and social upgrading equally.
As a definition:

- Economic upgrading is referred to productivity gains, structural transformation and growing domestic value added embedded in a country’s exports. Its drivers are knowledge transfers, product differentiation and the addition of adjacent stages of the value chain.
- Social upgrading is referred to the expansion of employment and improvement in employment conditions.

Economic upgrading was organized into four main types by Humphrey–Schmitz (2002) and this typology has usually been applied since then. According to these authors the upgrading of a firm may be:

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<td><strong>I. Product upgrading:</strong></td>
<td>moving into more sophisticated product lines (which can be defined in terms of increased unit values)</td>
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<td><strong>II. Process upgrading:</strong></td>
<td>transforming inputs into outputs more efficiently by reorganizing the production system or introducing superior technology</td>
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<td><strong>III. Functional upgrading:</strong></td>
<td>acquiring new functions in the chain (or abandoning existing functions) to increase the overall skill content of activities</td>
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<td><strong>IV. Inter-sectorial upgrading:</strong></td>
<td>using the knowledge acquired in particular chain functions to move into different sectors (often also called ‘inter-chain’ upgrading which takes place in one strand of a value chain) [37]</td>
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In recent studies some other upgrading process are included under economic upgrading process of GVCs which are channel upgrading and supply chain upgrading. Channel upgrading is an upgrading process to diversify end market to enter in to new markets and supply chain upgrading is for the improvement of backward linkage with the suppliers [38].

Social upgrading is understood as a process of improvement in the entitlements and rights of workers as social actors, which enhances the quality of their employment. From this perspective, social upgrading involves the advancement of employment based on decent work and respect for labour standards. At the same time, access to better work as just described might actually result from economic upgrading [39].
For the purpose of this review, the articles which are published on the global value chain and upgrading in the system has been selected with the special consideration on the developing country, as sample articles are included in the table 1 below. The articles are selected from different journals and Google scholar by using the key words like, developing country, global value chain, upgrading (economic and social upgrading). These articles discuss different issues relate to GVC and developing countries participation of developing countries with the benefits they gain for it. They include GVC reviews, research paper and case studies.
Table 1: The summer of reviewed articles on global value chain related to developing country and upgrading

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<tr>
<th>Title</th>
<th>Author</th>
<th>General Objective</th>
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<tr>
<td>Economic and social upgrading dynamics in global manufacturing value chains: A comparative analysis</td>
<td>Thomas Bernhardt and Ruth Pollak, 2015</td>
<td>Examine the relationship between economic performance and social performance in the different GVCs to investigate whether or not economic upgrading is typically associated with social upgrading.</td>
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<td>Social upgrading in developing country industrial clusters: A reflection on the literature</td>
<td>Frank Pyke and Peter Lund-Thomsen, 2015</td>
<td>Examine the role of social upgrading in developing country industrial clusters</td>
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<tr>
<td>Measuring Smile Curves in Global Value Chains</td>
<td>Ming YE, Bo MENG, and Shang-jin WEI, 2015</td>
<td>Discuss the application of smile cure for the global value chain measure and to indicate countries’ participation position in the GVC</td>
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<tr>
<td>Making Global Value Chains Work for Development</td>
<td>Taglioni &amp; Winkler, 2016</td>
<td>Discusses how to be best beneficiary of participating in GVC and how to measure countries’ portion in GVC</td>
</tr>
<tr>
<td>Global Value Chains: Impacts and Implications Editor’s Overview</td>
<td>Aaron Sydor, 2011</td>
<td>Explore the impact and implication of GVCs in the economic development of a participating countries</td>
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<tr>
<td>Local Means in Value Chain Ends: Dynamics of Product and Social Upgrading in Apparel Manufacturing in Guatemala and Colombia</td>
<td>Seth Pipkin, 2011</td>
<td>Discussions of global value chains (GVC) and industrial upgrading</td>
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<tr>
<td>Global Value Chains Meet Innovation Systems: Are There Learning Opportunities for Developing Countries?</td>
<td>Carlo Pietrobell &amp; Roberta Rabellotti, 2011</td>
<td>Explore the relation between GVCs and Innovation system, and how GVC contributions in the knowledge transfer</td>
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<td>7</td>
<td>Local Means in Value Chain Ends: Dynamics of Product and Social Upgrading in Apparel Manufacturing in Guatemala and Colombia</td>
<td>SETH PIPKIN, 2011</td>
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<td>8</td>
<td>Global Value Chains: The New Reality of International Trade</td>
<td>Sherry Stephenson, 2013</td>
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<td>9</td>
<td>Global value chains, rising power firms and economic and social upgrading</td>
<td>Joonkoo Lee and Gary Gereff, 2014</td>
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<td>10</td>
<td>Industrialization and Global Value Chain Participation: An Examination of Constraints Faced by the Private Sector in Nepal</td>
<td>Yurendra Basnett and Posh Raj Pandey, 2014</td>
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<td>11</td>
<td>Asian firms and the restructuring of global value chains</td>
<td>Shamel Azmeha, Khalid Nadvi, 2011</td>
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<td>12</td>
<td>Labour market effects of integration into GVCs</td>
<td>Anirudh Shingal, 2015</td>
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<td>13</td>
<td>Global value chains, large-scale farming, and poverty: Long-term effects in Senegal</td>
<td>Goedele Van den Broeck, Johan Swinnen, Miet Maertens, 2011</td>
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<td>14</td>
<td>Economic and Social Upgrading: Definitions, connections and exploring means of measurement</td>
<td>Joaquin Salido, Tom Bellhouse, 2016</td>
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<td>15</td>
<td>Social Sustainable Supply Chain Management in the Textile and Apparel Industry—A Literature Review</td>
<td>Deniz Köksal, Jochen Strähle, Martin Müller and Matthias Freise</td>
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<tr>
<td>16</td>
<td>Business strategy and upgrading in global value chains: a multiple case study in Information Technology firms of Brazilian origin</td>
<td>Eduardo Armando, Ana Claudia Azevedo, Adalberto Americo Fischmann, Cristina Espinheira Costa Pereira, 2016</td>
</tr>
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<td>17</td>
<td>Global value chain configuration: A review and research agenda</td>
<td>Virginia Hernández, Torben Pedersen, 2017</td>
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5. Conclusion

Economic upgrading is not an automatic drive of social upgrading in the GVC upgrading process and it needs complementary policy which will promote social upgrading through maximization of the sustainable development impact of GVC activities. Strong social policies are required to create an equal distribution of opportunities and outcomes from the participation of GVC. The above reviewed articles are the combination of literature review, case study and research articles which are more explored on the upgrading process in the Global Value chain system and the whole article mention in their issue that GVC is an opportunity for the developing countries to gain economic and social upgrading, but they more discuss on the economic upgrading issues and less emphasize on the social upgrading issues and on what has to be done to solve the social related issues. to gain the in the upgrading process of the system more literatures exist on the economic upgrading of the country who are participating in the GVC. These scholars mentioned that the improvements in living standards and social well-being which are captured under the concept of “social upgrading” is left with less considerations in the literature body of Global Value chain and they mentioned it as the future research areas for the countries to balance their economic upgrading with the social upgrading through devising the appropriate measuring system.
References


