

# Concept & Tools | Global Value Chains

## **What is a value chain?**

The value chain describes the full range of activities that firms and workers do to bring a product/good or service from its conception to its end use and beyond. This includes activities such as design, production, marketing, distribution and support to the final consumer.

## **Is there a difference between a supply chain and a value chain?**

Yes. A supply chain emphasizes the manufacturing and distribution-related steps, whereas a value chain also includes the importance of other activities such as design and branding that add value to a product, but do not necessarily reflect a physical transformation.

## **Is there a difference between a value chain and a global value chain (GVC)?**

A value chain can be contained within a single geographic location or even a single firm (think about a fruit that is grown, packaged, sold and consumed within one country). A global value chain is divided among multiple firms and geographic spaces. For example, a computer uses labor and materials from multiple suppliers in different countries, is assembled in another country, and was designed and will ultimately be sold in other places. The GVC Initiative is particularly interested in understanding value chains that are divided among multiple firms and spread across several locations, hence the term "global value chain."

## **What are the implications for global value chains on society?**

Firms and workers in widely separated locations affect one another more than they have in the past. Some of these effects are quite straightforward, such as when a firm from one country establishes a new factory or engineering center in another country, and some are more complex, such as when a firm in one country contracts with a firm in another country to coordinate production in plants owned by yet another firm in a third country, and so on.

It is important to trace the shifting patterns of global production and understand

how GVCs work or are "governed," and determine the roles they play in rich and poor countries alike. It informs the details of jobs, technologies, standards, regulations, products, processes and markets in specific industries and places. It is important for economic actors, firms, workers and policy makers to better understand how GVCs function in specific cases and to have tools to help predict how they might change over time.

### **Are all global value chains the same?**

No. The relationships among firms in GVCs varies based on a number of factors including product characteristics (i.e., number of components or weight of the product), firm capabilities, and the ability to standardize the production process. See the section below on value chain governance for more details.

### **When did global value chain analysis come to fruition?**

The GVC framework emerged in the early 2000s to combine aspects of popular industrial organization frameworks, including commodity chains, networks, industrial districts and clusters, among others. In 2000, a group of researchers from various scholarly backgrounds came together to develop a common framework using a standard set of terms to describe the complex network relationships between firms that often span wide geographic areas. This marked the beginning of the Global Value Chains Initiative and led to the development of a growing research approach called global value chain analysis. See the [About Us](#) page for more details.

### **What is the GVC research approach and GVC analysis?**

The global value chain research approach is widely used by academics and practitioners to conduct detailed research on the structure and dynamics of global industries to understand where, how, and by whom economic, social and environmental value is created and distributed. In practice, research questions center on development and competitiveness issues and analysis seeks to identify potential leverage points and bottlenecks in the chain. Economic developers often use the results of a value chain analysis to devise industrial policies and strategic plans for firms or countries.

Studies that use the GVC framework typically follow a research approach that involves two main steps: value chain mapping and analysis. Value chain mapping is the process of identifying the geography and activities of stakeholders involved from taking a good or service from raw material to production and then to the consumer

(input-output). Value chain analysis seeks to determine the role dynamic factors (governance, institutions and inter-firm relationships) play in influencing the location, development and competitiveness of a product or service. This also includes identifying potential interventions and leverage points to initiate change.

### **Can you provide me with some real-world examples of GVC studies?**

The Duke University Global Value Chains Center is the home of the GVC Initiative and is one of the few GVC-focused research organizations. Since 2007, Duke CGGC has produced over 100 GVC industry reports across 30+ countries for a range of clients in addition to hundreds of additional publications, presentations, and workshops. In a recent project, Duke CGGC prepared a series of reports analyzing Costa Rica's participation in four highly diverse industries, each at a different stage of development in the country. In each case the GVC framework was used to identify opportunities for upgrading given the global dynamics of each industry and Costa Rica's capabilities. In another project, the GVC framework was used to identify specific workforce development strategies to foster upgrading within three industries crucial to Burundi's economic development: agribusiness, coffee and energy. For a full list of projects and reports with briefs on research objectives and outcomes of actual GVC projects commissioned by country governments and international organizations, see the [an overview of our work](#).

### **Who should care about GVCs?**

GVCs are spatially extensive, organizationally fragmented, and highly dynamic, making it difficult to ascertain one's position and prospects. Therefore it is important for economic actors, firms, workers and policymakers to understand how GVCs function in specific cases and to have tools to help predict how they might change over time. For example, a small firm in a developing country, a manager within that firm, and local policymakers focused on sustainable economic upgrading will all benefit from thinking about their competencies relative to other actors, both local and global, in the chains they participate in, or hope to participate in.

### **What is value chain (or firm) governance?**

In a paper that emerged from the deliberations of the GVC Initiative (Gary Gereffi, John Humphrey, and Timothy Sturgeon, "The governance of global value chains," *Review of International Political Economy*, vol. 12, no. 1, 2005), five different GVC governance patterns were identified:

**1. Markets.** Markets are the simplest form of GVC governance. GVCs governed by markets contain firms and individuals that buy and sell products to one another with little interaction beyond exchanging goods and services for money. The central governance mechanism is price. The linkages between value chain activities are not very "thick" because the information that needs to be exchanged and knowledge that needs to be shared is relatively straightforward.

**2. Modular value chains.** This is the most market-like of three network-style GVC governance patterns. Typically, suppliers in modular value chains make products or provide services to a customer's specifications. Suppliers in modular value chains tend to take full responsibility for process technology and often use generic machinery that spreads investments across a wide customer base. This keeps switching costs low and limits transaction-specific investments, even though buyer-supplier interactions can be very complex. Linkages are necessarily thicker than in simple markets because of the high volume of information flowing across the inter-firm link, but at the same time codification schemes and the internalization of coherent realms of knowledge in value chain "modules," such as design or production, can keep interactions between value chain partners from becoming highly dense and idiosyncratic.

**3. Relational value chains.** In this network-style GVC governance pattern we see mutual dependence regulated through reputation, social and spatial proximity, family and ethnic ties, and the like. The most obvious examples of such networks are in specific communities, or "industrial districts," but trust and reputational effects can operate in spatially dispersed networks as well. Since trust and mutual dependence in relational GVCs take a long time to build up, and since the effects of spatial and social proximity are, by definition, limited to a relatively small set of co-located firms, the costs of switching to new partners tends to be high. Dense interactions and knowledge sharing are supported by the deep understanding value chain partners have of one another, but unlike the codification schemes that enable modular networks, these "short-cuts" tend to be idiosyncratic and thus difficult and time-consuming to re-establish with new value chain partners.

**4. Captive value chains.** In this network-style GVC governance pattern, small suppliers tend to be dependent on larger, dominant buyers. Depending on a dominant lead firm raises switching costs for suppliers, which are "captive." Such networks are frequently characterized by a high degree of monitoring and control by the lead firm. The asymmetric power relationships in captive networks force suppliers to link to their customer in ways that are specified by, and often specific to

a particular customer, leading to thick, idiosyncratic linkages and high switching costs all round.

**5. Hierarchy.** This governance pattern is characterized by vertical integration (i.e. "transactions" take place inside a single firm). The dominant form of governance is managerial control.

Much of the literature that seeks to categorize cross-border economic activity emphasizes only two options: market or hierarchy. Firms either invest offshore directly or buy goods and services from foreign firms. A smaller body of literature has noted the prevalence of network forms of organization where there is some form of "explicit coordination" beyond simple market transactions but which fall short of vertical integration. While this is a useful insight, there is convincing evidence that not all networks are the same. The GVC framework specifies three types of network governance (modular, relational, and captive) along with the two traditional modes of economic governance (markets and hierarchies).

### **What makes GVCs differ by industry?**

When would we expect to see GVCs organized according to the five patterns outlined above? This is a complex question, and there are many factors that influence how GVCs grow and develop over time. One important point is that the patterns and effects of GVCs tend to vary in specific industries and places. Because of this, GVC research often has an industry or geographic focus. In "The governance of global value chains" (cited above), the co-organizers of the GVC Initiative identify three important variables to look for when studying GVCs in a particular firm, industry, or place:

**1. The complexity of transactions.** More complex transactions require greater interaction among actors in GVCs and thus stronger forms of governance than simple price-based markets. Thus, complex transactions will likely to be associated with one of the three network governance patterns (modular, relational, or captive) or integrated within a single firm (hierarchy).

**2. The codifiability of transactions.** In some industries schemes have been worked out to codify complex information in a manner in which data can be handed off between GVC partners with relative ease, often using advanced information technologies. If suppliers have the competence to receive and act upon such codified information, and if the codification schemes are widely known and widely used, then we would expect to see modular value chains emerge. If not, then lead firms might

either keep the function in-house, leading to more vertical integration (hierarchy) or outsource it to a supplier that they tightly control and monitor (the captive network type) or have a dense, idiosyncratic relationship with suppliers (the relational governance type).

**3. The competence of suppliers.** The ability to receive and act upon complex information or instructions from lead firms requires a high degree of competence on the part of suppliers. Only then can the transfer of complex but codified information be achieved (as in modular networks) or intense interaction be worthwhile (as in relational networks). Where competent suppliers do not exist, lead firms either must internalize the function (hierarchy) or outsource it to suppliers that they tightly monitor and control (captive suppliers).

Furthermore, if one of these three variables changes, then value chain governance patterns tend to change in predictable ways. For example, if a new technology renders an established codification scheme obsolete, we might expect modular value chains to become more relational, and if competent suppliers cannot be found, then perhaps captive networks and even vertical integration would become more prevalent. Conversely, rising supplier competence might mean that captive networks move toward the relational type and better codification schemes might prepare the ground for modular networks.

### **How do GVCs differ from Global Commodity Chains?**

The GVC framework represents just one of many approaches to detailed, firm-level research on the structure and dynamics of global industries. An earlier, but still active body of research on Global Commodity Chains (GCCs) developed a key distinction between global chains that are "driven" by two kinds of lead firms: buyers and producers. Gary Gereffi's chapter in the 1994 book he edited with Miguel Korzeniewicz, *Commodity Chains and Global Capitalism* (Westport, CT: Praeger), entitled "The organization of buyer-driven global commodity chains: How U.S. retailers shape overseas production networks" was a major contribution to this stream of research.

The GCC framework focused attention on the powerful role that large retailers, such as Wal-Mart, and brand marketers, such as Nike, have come to play in the governance of global production and distribution. Although "global buyers" own few, if any, of their own factories, the volume of their purchasing provides them with a huge amount of clout among suppliers, power they have wielded to specify what, how, when, where, and by whom the goods they sell are produced. Extreme market

power has also allowed global buyers to extract price concessions from their main suppliers. Supplier firms have responded by locating more of their factories in low-cost locations and working harder to extract price concessions from their own, upstream suppliers.

The GCC framework contrasted such "buyer-driven" chains to "producer-driven" chains dominated by large manufacturing firms such as General Motors and IBM. Put simply, producer-driven chains have more linkages between affiliates of multinational firms, while buyer-driven chains have more linkages between legally independent firms. Underlying this distinction is the notion that buyer-driven chains are more common in relatively simple products, such as apparel, home goods, and toys. In these industries, innovation lies more in product design and marketing than manufacturing know-how, making it is relatively easier for lead firms to outsource production. In the more technology- and capital-intensive items made in producer-driven chains, such as cars and complex electronics, technology and production expertise are core competencies that need to be developed and deployed in-house, or in captive suppliers that can be blocked from sharing with competitors.

Over the last 30 years however, transnational giants have changed quite dramatically, outsourcing more activities and developing strategic alliances with competitors. They have become less vertically integrated and more network-oriented. Better global standards in the realms of business processes and product characteristics, and the heavy application of information technology in areas such as design, manufacturing, service provision, supply chain coordination, and materials management, has enabled increased outsourcing in producer-driven chains and made it possible, and more compelling, for firms to forge modular linkages between buyers and suppliers in both producer- and buyer-driven chains.

The result has been broad and rapid shifts in chain governance, where producers have become more buyer-like through outsourcing, and where the capabilities required to serve global buyers have been escalating rapidly. Today, global-scale networks of legally independent firms no longer make only simple items, but technology- and capital-intensive goods and services as well. The GVC framework specifies a more elaborate set of governance forms and crucially provides a method to explain *changes* in governance patterns over time. As a starting-point, however, we can say that buyer-driven chains tend to be coordinated via market, modular, or relational governance, and producer-driven chains tend to be coordinated via captive or hierarchical governance.

*Reference and Last Updated:* Stacey Frederick, Duke University. Durham, NC, USA.

**Date:** August 16, 2016