

Challenges of globalized supply chains in times of technological change

Executive Summary

Red Paper | Global Excellence in Supply Chain Operations

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Introduction

The GEXSO initiative

GEXSO (Global Excellence in Supply Chain Operations, cf. www.gexso.com) is a cooperation between TU Darmstadt, the magazine LOGISTIK HEUTE and the management and technology consulting firm BearingPoint. It examines the current state and medium-term development perspectives of internationalization in machinery and plant engineering, the industrial component industry as well as the automotive supplier sector in German-speaking regions.

The globalization process of Western-European industrial companies has become an important factor for their competitive position in worldwide markets. The need to exploit cost benefits, to gain growth potential and to achieve global customer proximity were the driving forces for globalization in the past. As a consequence, global presence, concepts and processes are crucial topics on the management agenda of today's domestic industries.

GEXSO examines requirements for successful internationalization, establishes practices in the context of globalization and outlines indispensable competencies. However, it neither examines the reasons for globalization nor the underlying economic analysis for expansion. The central aim of the study is to look at the global strategy and to outline existing globalization competencies and deficits. Three aspects characterize the GEXSO approach:

Industry focus!

Trading, chemical, service and mechanical engineering companies approach internationalization in different ways. The companies examined by GEXSO within machinery and plant engineering, the industrial component industry as well as the automotive supplier sector differ mostly because they produce globally, have a high rate of variant diversity and sell products with advanced technology. They often produce semi-finished products and maintain spare parts as well as service businesses. These characteristics result in distinctive globalization strategies.

Geographical focus!

GEXSO focuses on companies from Germany, Austria and Switzerland. These regions show close networks and high concentration of companies from the examined industries. Furthermore, companies originating from these particular countries have achieved sustainable success, being referred to as technology leaders in many cases. Moreover, they have undertaken unprecedented internationalization efforts. The GEXSO study gets its authenticity, benchmark character and relevance of statements from the focus on these countries that have shaped such industries.

Recurring Study!

The GEXSO initiative discusses various globalization topics with relevance for industrial firms on a recurring basis. Thereby, the progress of internationalization processes will be described consistently on the basis of key indicators regarding production sites, purchasing volume and customers over many years. In addition, special focus areas are examined separately in each edition – e.g. the maturity level of company processes as prerequisite for successful globalization or the impact of technological change on industrial supply chains. Thus, on the one hand, GEXSO offers a time series analysis over many years across different editions, and on the other hand it also focuses on currently relevant topics.

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Companies that experience an exceptionally strong technology change also globalize their supply chain to a greater extent

This core statement of the current GEXSO study is also the conclusion of an article by the GEXSO partner LOGISTIK HEUTE titled “Technology as a catalyst” (cf. LOGISTIK HEUTE, issue 10/2014).

Accordingly, technology change is experienced more strongly by companies that search for production sites and suppliers in different regions of the world.

Nearly 72 per cent of the GEXSO study participants notice a strong technology change in their company in one form or another. Almost a third of these companies have revenues of more than EUR 1 billion.

The strongest change is noticed in the usage of new materials and electronic components. These two areas are vastly affected by innovation and technological developments. At the same time, new production methods are most frequently mentioned as process technology-related innovation.

In most cases, technological alterations are based on internal innovations. Partly, changes are also driven by customers. Government institutions and suppliers are rarely seen as drivers for general technological change.

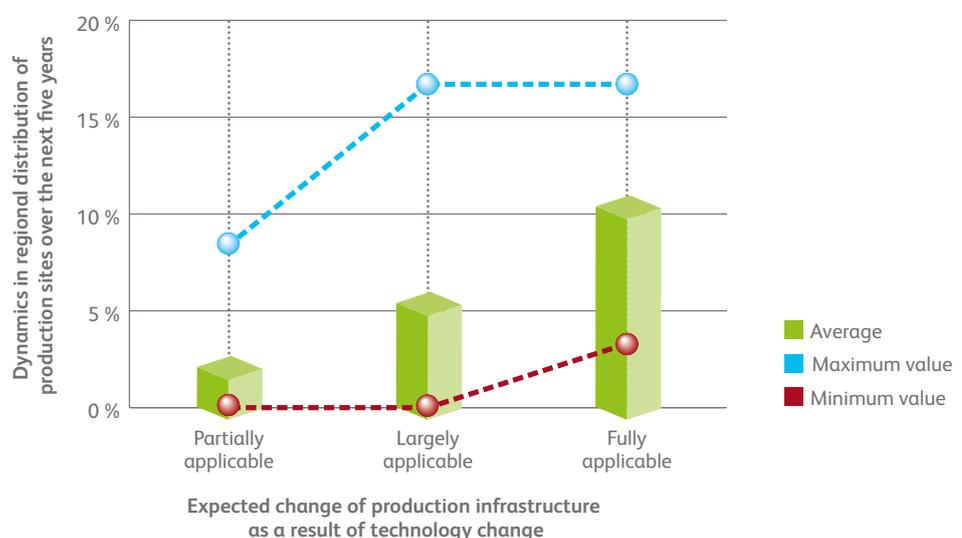
Companies most frequently stated that they have implemented a general strategy for the identification and research of new technologies as well as an open business culture in order to successfully implement technical innovations. On the contrary, flexible and fast decision-making procedures are seen as deficiencies. Sufficient budgets are also mentioned less frequently.

The primary effects of technological change are an adjusted production infrastructure and new suppliers. Moreover, supply chain processes are also adjusted to a great extent. Therefore, innovations in process and product technologies have direct impact on supply chains.

In addition, companies that experience an exceptionally strong technology change, also globalize their supply chain to a greater extent. Thus, companies that notice a significant technology change, also expect a stronger shift in the global distribution of their production sites within the next five years.

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CORRELATION OF TECHNOLOGY CHANGE AND CHANGE OF REGIONAL DISTRIBUTION OF PRODUCTION SITES



In general, most interviewed companies are subject to a significant globalization process; more than 60 per cent of the companies serve half of their customers outside their home region, Western Europe.

While 37 per cent of the companies plan to increase the globalization degree of their production sites within the next five years, even 73 per cent plan to increase the share of global procurement volume.

This so-called 'global shift' confirms Western Europe's decreasing significance regarding customers, suppliers and production sites, as well as procurement volumes within the next five years.



The importance of Western Europe will plummet in the future. Companies plan to shift volumes to Eastern regions. Greatest dynamics will be observed especially in procurement activities.

In particular East Asian countries will benefit from this trend, as well as Eastern European countries, but these mainly regarding procurement. This shift, as repeatedly examined by GEXSO, changes companies' supply chain structures in the long-term.

Due to increasing globalization degrees in procurement, there is a stronger focus on country analysis of potential procurement markets. Difficulties that participating companies experience most frequently in the procurement process are exchange rate fluctuations, high levels of corruption, and insufficient quality from suppliers.

Russia and China, followed by India, are seen as the most difficult countries. In China, the protection of intellectual property is considered as particularly difficult. In Russia, general political conditions and high levels of corruption are seen as obstacles. According to the participants, sourcing in India is hindered by insufficient infrastructure and missing quality standards of employees and suppliers.

The Eastern European countries of the EU, the USA and Turkey are regarded as highly attractive for procurement while only a few difficulties are experienced. Although China is seen as one of the most difficult procurement markets, participants also rate its attractiveness as exceptionally high, thereby attesting to China's high potential in the future.

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BearingPoint consultants understand that the world of business changes constantly and that the resulting complexities demand intelligent and adaptive solutions. Our clients, whether in commercial or financial industries or in government, experience real results when they work with us. We combine industry, operational and technology skills with relevant proprietary and other assets in order to tailor solutions for each client's individual challenges. This adaptive approach is at the heart of our culture and has led to long-standing relationships with many of the world's leading companies and organizations. Our 3350 people, together with our global consulting network serve clients in more than 70 countries and engage with them for measurable results and long-lasting success.

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