

## CHANGES IN SUPPLY CHAINS IN THE LIGHT OF EMERGING MARKET PROCUREMENT

**Barbara Galińska**

Faculty of Management and Production Engineering, Lodz University of  
Technology, Poland

E-mail: [barbara.galinska@p.lodz.pl](mailto:barbara.galinska@p.lodz.pl)

Received: May 20, 2019

Received revised: August 20, 2019

Accepted for publishing: August 29, 2019

### *Abstract*

Purchases and supply chain management are the fields, which have become one of the key element of any business activity in the recent years. Taking into account the beginning of the 21st century and its revolutionary changes in the business management, it is difficult to imagine the successful future of any enterprise operating on the modern market, already involved or integrated into the global competition, without any business support obtained by purchasing procedures. This also applies to the Polish companies, that without any modern purchasing development and widely shaped by the modern logistic megatrends, are currently unable to compete with others anymore. One of such 'megatrend' is transformation in logistics models (placement of business centres in Asia, Africa and Eastern Europe, namely to emerging markets), which directly influence functioning and the shape of supply chains and their individual elements. Thus, the supply chains have become more multidimensional and complex but still adapted to changing business environment, whereas global purchasing trends have become a difficult challenge for companies in the conditions of a modern, turbulent and very competitive global environment. In this respect, the author of this paper is making a pioneering attempt to indicate the changes in supply chains, which occurred as a result of the development of procurement in emerging markets (as for example modifications of the structure and number of foreign suppliers and ways to obtain general information about them, factors which inspire establishing cooperation as well as changes in the kinds of transport used and kinds of loading units). The above mentioned goal was achieved through comparison of the author's own surveys data carried out in 2012 and 2018. The studies were conducted on a group of 120 people - managers in the manufacturing companies responsible for supply chains management. The research method was based on electronic surveys, while a survey questionnaire made the research tool.

**Key words:** global sourcing, changes, megatrend, supply chain management, logistics management

## 1. INTRODUCTION

Continuous economic changes greatly affect the significance of procurement. It has become the core of operation for companies which perceive it as an opportunity to improve their competitive position in the market. Enterprises strive for minimising the costs of components manufacturing and reducing the flow time of products and information while maintaining the quality of products and services requested by customers. One of the strategies aimed to reduce the manufacturing costs is to cooperate with material suppliers located in emerging markets. The strategy to a great extent was shaped by contemporary logistic megatrends.

Logistic megatrends have the power to alter operation of logistic businesses. The megatrends apply directly to the way of enterprises operate and compete. They are the power which generally occurs globally and affects different aspects of an enterprise operation, including e.g. its supply chain (Gröhn, 2006). The most crucial megatrends which greatly affect supply chains include e.g. transformations within logistic models (locating business centres in Asia, Africa and Eastern Europe - in emerging markets) and the gradually increasing impact of modern, innovative and smart technologies, changes inside the existing corporations, global competition (development of e-commerce, e-shopping and expansion of mobile services) as well as numerous demographic and cultural transformations. The identified megatrends directly affect supply chains which become more complex, multidimensional and able to adapt to the constantly changing business environment (Galińska, 2018, p. 583-601).

Transformations of logistic models are among highly important logistic megatrends. The number of products available in the European markets and USA which come from emerging markets has been growing. The notion of 'emerging markets' includes all countries which have started their journey from developing to developed economy. They are essentially characterised by a fast economic growth and high level of investment (although it is not always a rule) and hence they become attractive places to locate capital.

The development of procurement from emerging markets constitutes a significant source of deep changes in supply chains and their components. Meanders of global shopping have become a tough challenge for enterprises in light of contemporary, turbulent and highly competitive global environment. Against this background the author of the paper makes a pioneering attempt to demonstrate changes in supply chains which occurred as a result of development of procurement from emerging markets. The above mentioned goal is reached as a result of comparing own surveys carried out in 2012 and 2018. The research method was based on electronic surveys, while a survey questionnaire made the research tool. The surveys were performed in a group of 120 respondents - managers in production companies responsible for supply chain management.

The paper has been divided into 6 sections. In the first one the background of the analysis is presented. The second section describes the most important emerging markets, where Polish companies aim at becoming more competitive. The third one presents methodology and the scope of empirical research, enabling objective of the studies. The fourth section contains results of the research and similarities/ differences in SCs functioning resulted from the development of emerging markets procurement.

In section five the final conclusions are presented. The paper is supplemented by a list of references (sixth section).

## 2. CONTEMPORARY EMERGING MARKETS

Emerging markets are the countries which have started their journey from developing to developed economy. There are five main characteristic features of them. Firstly, they have a lower-than-average per capita income. Secondly, they are characterised by a rapid growth. The third characteristics is high volatility mainly as a result of three factors: natural disasters, external price shocks and domestic policy instability. Yet, emerging markets are more susceptible to volatile currency swings, such as those involving the U.S. dollar. They are also vulnerable to commodities swings, such as those of oil or food. It happens as they do not have enough power to influence these movements. Furthermore, the capital markets are less mature in these countries than the developed markets, which makes their fourth characteristic feature. In addition, they do not have a solid track record of foreign direct investment. Finally, the fifth characteristic is the higher-than-average return for investors, as many of these countries focus on an export-driven strategy. They do not have the demand at home, so they produce lower-cost consumer goods and commodities for developed markets (Amadeo, 2019). According to the Morgan Stanley Capital International Emerging Market Index (MSCI, 2019), 24 developing countries qualify as emerging markets - these are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates (Figure 1). The index follows the market caps of the companies on the countries' stock markets.

**Figure 1.** MSCI ACWI Index market allocation

MSCI ACWI INDEX					
MSCI WORLD INDEX			MSCI EMERGING MARKETS INDEX		
DEVELOPED MARKETS			EMERGING MARKETS		
Americas	Europe & Middle East	Pacific	Americas	Europe, Middle East & Africa	Asia
Canada United States	Austria Belgium Denmark Finland France Germany Ireland Israel Italy Netherlands Norway Portugal Spain Sweden Switzerland United Kingdom	Australia Hong Kong Japan New Zealand Singapore	Brazil Chile Colombia Mexico Peru	Czech Republic Egypt Greece Hungary Poland Qatar Russia South Africa Turkey United Arab Emirates	China India Indonesia Korea Malaysia Pakistan Philippines Taiwan Thailand

Source: (MSCI, 2019)

In addition, the International Monetary Fund (IMF) classifies 23 countries as emerging markets. Standard and Poor's (S&P) classifies 23, Russell classifies 19 countries as emerging markets, while Dow Jones classifies 22 countries.

A list of countries that all five institutions classify as emerging markets includes: Brazil, Chile, China, Colombia, Hungary, Indonesia, India, Malaysia, Mexico, Peru, Philippines, Russia, South Africa, Thailand and Turkey. The remaining countries on the IMF emerging market list are: Argentina, Bangladesh, Bulgaria, Pakistan, Poland, Romania, Ukraine and Venezuela. The remaining countries on the MSCI list are Czech Republic, Egypt, Greece, Pakistan, Poland, Qatar, South Korea, Taiwan and the United Arab Emirates. The S&P list has these remaining countries: Czech Republic, Egypt, Greece, Pakistan, Poland, Qatar, Taiwan and the United Arab Emirates. The Russell list has such remaining countries, as: Czech Republic, Greece, Taiwan and the United Arab Emirates. And finally the Dow Jones list includes such countries, as: Czech Republic, Egypt, Greece, Poland, Qatar, Taiwan and the United Arab Emirates.

At any of these institution's discretion, a country can be removed from the list by either upgrading to a developed nation or downgrading to a frontier nation. Likewise, developed nations may be downgraded to an emerging market, as was the case with Greece, or frontier markets may upgrade to an emerging market, as was the case for Qatar and Argentina (Kenton, 2019).

China and India are said to be the main emerging market power houses. Together, these two countries are home to 40 percent of the world's labour force and population. In 2017, their combined economic output (\$32.6 trillion) was greater than the European Union (\$20.9 trillion) or the United States (\$19.4 trillion) (Amadeo, 2019). Although China and India have high production and industry, other factors like low per capita income or a heavy focus on exports, qualify them as emerging markets (Sraders, 2018).

China is a country which plays an important role in production migration to emerging markets. Direct foreign investment in China applies to industry, and processing in particular. The country is a dominant producer of such industrial goods, as: electrical machinery, machinery (including computers), furniture (including bedding, lighting, prefab buildings) and clothing (Pines, 2019). Other recommended products include metal parts, wire harnesses, cables, electronic components, special chemicals, textiles, footwear, promotional and office products (Kerkhoff, 2005, p. 125-133).

China's competitive advantage, besides low remuneration level, is based on the following factors (Zinzius, 2019, p. 3-16):

- minimum cost burden on remuneration,
- improved work efficiency and labour force,
- entrepreneurship and discipline, which are typical of Chinese employees.

It is worth highlighting that recent years saw a significant improvement in the level of education and technical qualifications of employees from China. The number of students, including students of foreign universities, has also gone up. The increase in the quality of human resources contributes to changes in the structure of employment (Hu et al., 2014, p. 63-79). Interest in procurement from China results

from legislative changes as well. Owing to the changes the Chinese market has opened to new business aspects (Marszałek-Kawa, 2008, p. 222-224).

China is a market regarded as perfect for manufacturing of products characterised by unchanging and easily predictable demand and with long expiry dates. The solution is beneficial for less innovative companies which manufacture standard products that do not require sophisticated technologies.

India is the second strongly developing emerging market. India's economy today relies mainly on a few industry markets (India's Culture Guide, 2019; Para, 2015):

- telecommunication industry, which is now the world's fastest growing and which surpassed the US in 2017 to become the second largest smartphone market in the world after China,
- automotive industry, which is now the world's second fastest growing,
- pharmaceutical and biotechnology industry, which is among the world's most significant emerging markets (India is the world's first generic drugs producer and exporter yet),
- textile and clothing industry,
- electrical and power engineering industry.

Traditional export goods include e.g.: generic drugs, oil-based products, textiles and craftwork - mainly jewellery, leather, noble stones, mineral raw materials, jute, spices and tea (India is the largest producer of tea in the world), software and chemicals (Portal Importuj z nami, 2019).

India is considered as the world's sixth-largest economy by nominal GDP and the third-largest by purchasing power parity. According to several studies, India's growth rate should stabilise at 8% during the next decades, ranking the country as the world's fastest-growing economy. Its GDP could overtake that of the US before 2050, turning India into the strongest economy worldwide.

India's key growth factors are (India's Culture Guide, 2019):

- a young and rapidly growing working-age population,
- rising education and engineering skill levels, accentuating growth in the manufacturing sector,
- a rapidly growing middle-class, implementing a sustained growth of the consumer market.

The dynamics of development rate in India is high. India is ranked as the third Asian economy for its GDP value after China and Japan (Para, 2015).

### **3. METHODOLOGY AND THE SCOPE OF EMPIRICAL RESEARCH**

The purpose of the paper is to demonstrate changes in supply chains which occurred as a result of development of procurement from emerging markets. Surveys were used as the method of fulfilling the purpose. The research method was based on electronic surveys, while a survey questionnaire made the research tool (Matejun, 2018, p. 237-246). From a technical point of view a survey is based on clearly defined persons (respondents) giving answers to questions which form an informed, logical,



consistent and coherent set of answers intended to solve a scientific problem. This type of research is characterised by a lack of active, dynamic and substantial interaction between a researcher and respondent.

The selection of survey methodology was justified by the research specificity and the need to reach a wider group of respondents. Moreover, the method has a clear and friendly form and is characterised by a higher degree of respondents' anonymity. When making a decision to use a survey, the methodology limitations were also taken into account (e.g. low return rate of the questionnaires and possible difficulty reading or interpreting some of the questions). In order to eliminate them, a market research agency carried out the research. Owing to interviewers (who fulfil a technical and not substantial role) answers to the survey questions were obtained.

Research data (empirical material) were collected, summarised and analysed quantitatively in a Microsoft Excel spreadsheet. The following two main statistical parameters were used to present the research results - respondents' answers:

- quantity - frequency table, frequency of indications of the analysed feature; a common feature is the one which gets the highest number of indications,
- median (also called a middle value, average value or the second quartile) - a feature value above and below which there is the same number of observations; it is used for estimating significance of each feature.

The research was carried out in a group of 120 respondents. They represent companies where some materials are purchased from suppliers from emerging markets. The population of respondents included people responsible for supply chain management, especially sourcing directors and specialists (from large and medium-sized enterprises) as well as owners and CEOs (for small enterprises). The respondents were selected purposefully, focusing on those who notice the changes that occur in supply chains as a result of development of procurement from emerging markets.

The respondents represent companies of different sizes (Table 1). Pursuant to the Law it has been presumed that (Commission Regulation (EC) No 70/2001):

- large companies employ more than 250 employees,
- medium companies employ up to 250 employees,
- small companies (including micro-companies) employ up to 50 employees.

**Table 1.** Size of the studied group of enterprises

Enterprise size	2012	2018
Large companies	28	22
Medium-sized companies	37	25
Small companies	55	73

Source: author's own research

They are companies with different organisational and legal forms (Table 2). The greatest number of respondents represent limited liability companies.

**Table 2.** Organisational and legal frame of business activity in the studied group of enterprises

Organisational and legal frame of business activity	2012	2018
Limited liability company	61	64
Registered partnership	13	20
Joint stock company	6	3
Natural person conducting a business activity	24	27
Another frame of business activity	16	6

Source: author's own research

The majority of enterprises whose representatives participated in the research have been operating for more than 20 years (Table 3).

**Table 3.** Period of business operation of the studied group of enterprises

Period of business operation	2012	2018
Up to 5 years	7	9
5-10 years	15	11
10-15 years	17	14
15-20 years	23	14
20-25 years	27	38
Over 25 years	31	34

Source: author's own research

The respondents who took part in the research represent different companies - different depending on the division criteria. This way a general overview of companies can be obtained in which supply chain organisation and management are characterised by various complexity levels. Their representatives point out different aspects of changes in supply chains which occurred as a result of development of procurement from emerging markets in recent years. The results of research in the area are presented in the following section of the paper.

#### 4. RESULTS OF THE RESEARCH

The research (carried out in 2012 and 2018, in a group of 120 respondents) helped to identify changes in supply chains which occurred as a result of development of procurement from emerging markets.

Polish entrepreneurs are more likely to buy different materials from suppliers from emerging markets (Table 4). The number of companies whose suppliers come from China has gone up by 11%. China is now the most important emerging market

although India has been gaining importance as particularly attractive for Polish clothing and pharmaceutical companies. The most popular Eastern European markets include Russia, Czech Republic and Hungary. Gradually more friendly legal regulations contributed to the development of supply chains from the aforementioned markets.

**Table 4.** Percentage of enterprises whose suppliers come from emerging markets

Emerging market	Respondents' indications in 2012 (quantity, %)	Respondents' indications in 2018 (quantity, %)
China	17	28
India	8	12
Eastern Europe	33	43

Source: author's own research

A change in the number of foreign suppliers who make an important cell of contemporary supply chains results directly from the above. According to the research results, the total number of foreign suppliers in the analysed time period did not increase significantly but its structure changed (Table 5). The studied enterprises tend to cooperate with a growing number of foreign suppliers (see e.g. the range of 30-50 suppliers). The majority of them represent emerging markets (see Table 4).

**Table 5.** Number of foreign suppliers in a supply chain

Number of suppliers	Respondents' indications in 2012 (quantity, %)	Respondents' indications in 2018 (quantity, %)
Less than 5	30	27
5-10	12	15
10-30	30	25
30-50	8	19
50-100	8	13
Over 100	1	3

Source: author's own research

As a result of changes in supply chains and their increasing complexity, the ways of gaining information about foreign suppliers have also changed (Table 6). Own data base became more important than the Internet or Word of mouth. The author of the paper assumes that on the early stage of global supply chains development (2012) entrepreneurs were just starting their cooperation with suppliers from emerging markets. They had to look for information on the Internet, get it from their cooperating partners (word of mouth) or use other way such, as establishing contacts during branch fairs. Over recent years the cooperation has been established, and suppliers selected



and proven. That is why entrepreneurs these days mainly use their own data bases and get information on potential suppliers from there.

**Table 6.** Sources of general information about foreign suppliers

Source	Respondents' indications in 2012 (quantity, %)	Respondents' indications in 2018 (quantity, %)
Own data base	21	36
Internet	57	33
Word of mouth	49	31
Branch fair	55	27
Professional magazines, branch-specific	16	6
Press advertisements	4	5
Sector data bases	2	3
Economic chambers	2	1
Other	3	5

Source: author's own research

Other changes in supply chains as a result of growth of procurement from emerging markets can be observed in the factors which drive companies to establish cooperation with a supplier (Table 7). The factor of better quality of the goods/services offered requires special attention. Changes in supply chains affected both the likelihood of indicating the factor (from 53% to 57%) as well as its significance (median increase from 4 to 5). The share of the main factor which determines establishing cooperation with emerging market suppliers, i.e. lower prices of goods/services offered, also increased (for 64% of respondents nowadays this is the factor which makes them establish cooperation). Nonetheless it turns out that it is now less important than in 2012 (median drop from 5 to 4).

**Table 7.** Factors which foster a decision to establish cooperation with a supplier from an emerging market

Factors	Respondents' indications in 2012		Respondents' indications in 2018	
	Quantity	Median	Quantity	Median
No possibility to make goods/services with own resources	57%	5	53%	5
Lower price of the goods/services offered	60%	5	64%	4
Better quality of the goods/services offered	53%	4	57%	5

Supplier's cooperation with the company's key competitor	41%	3	26%	3
Supplier's know-how	53%	4	26%	2
Company restructuring	23%	2	26%	4
Will to improve company's attractiveness	22%	4	27%	3
Will to extend the company's product range	33%	4	45%	4
Will to develop and reach a better position against competitors	34%	3	43%	4
Will to improve the company efficiency	51%	4	56%	5
Will to improve company flexibility	45%	4	53%	5
Outsourcing - focusing on key operations, outsourcing of auxiliary operations to the supplier	45%	4	49%	4
Establishing of cooperation imposed by the main customer/ contractor/ mother company	32%	5	34%	3

Source: author's own research

The changes in supply chains which occurred as a result of growing procurement from emerging markets can also be observed in other elements of the supply chains, including the kind of transport used (Table 8) and kind of loading units (Table 9).

**Table 8.** Kind of transport used for collecting materials from foreign suppliers

Kind of transport	Respondents' indications in 2012 (quantity, %)	Respondents' indications in 2018 (quantity, %)
Outsourced vehicle transport - external carrier	41	47
Supplier's vehicle transport	16	24
Maritime transport	13	18
Inland transport	11	14
Own vehicle transport	17	13
Air transport	8	10
Combined/mixed transport	6	6
Railway transport	4	3

Source: author's own research

**Table 9.** Kind of loading units used

Loading unit	Respondents' indications in 2012 (quantity, %)	Respondents' indications in 2018 (quantity, %)
EURO pallets	46	75
Wooden pallets	51	44
Big-Bags	6	23
Containers	17	21
Drums	10	21
Special tanks	11	18
Tanks	6	16
Cardboard boxes	15	13
Bulk	13	7
Other	18	20

Source: author's own research

Road transport (own, supplier's and outsourced) is the most commonly used form of transport. It is widely used for transporting materials from Eastern European market suppliers. Maritime transport has gained importance (increase by 5%), which is supported by gradually increasing interest in such emerging countries, as China or India (maritime transport is regarded as the main form of transport in global transportation). The above directly affects the kind of loading units used. EURO pallets have become more common (standard unit in road transport, 29% rise) alongside with containers (standard unit in maritime transport, 4% rise).

## 5. FINAL CONCLUSIONS

Modern sourcing is greatly affected by contemporary logistic megatrends. Changes in logistics models (locating business centres in Asia, Africa and Eastern Europe, i.e. in emerging markets) are among the megatrends which directly impact supply chains and their elements. This aspect is the key purpose of the paper. The completed research enabled the identification of the most important changes in supply chains, which occurred as a result of development of procurement from emerging markets. The changes include modifications of the structure and number of foreign suppliers and ways to obtain general information about foreign suppliers, factors which inspire establishing cooperation as well as changes in the kind of transport used and kinds of loading units.

It is a fairly common practice for contemporary enterprises to cooperate with suppliers from emerging markets (mainly China, India and Eastern Europe). The

number of suppliers has been growing year after year. Enterprises acquire information about suppliers using own data bases which were developed during the last few/dozen years.

Significant changes in supply chains can also be observed in reference to the factors which stimulate the decision to establish cooperation with a supplier from an emerging market. Despite the fact that the factor of 'lower price of the goods/services offered' is the most common, it is not the most important one. The respondents regarded 'higher quality of the goods/services offered' and the 'will to improve the company's efficiency' as key factors. This is testimony to a change in the approach to procurement which is no longer treated as a standard purchasing transaction but has gained a status of an operating strategy based on a long-term and fruitful cooperation with suppliers. The suppliers offer top quality material, which directly affects the quality of the company's end products, makes them more competitive and improves efficiency.

The above mentioned research indicates changes in the supply chains which according to the author will be gradually more complex in the forthcoming years. As a result of growing competition, enterprises have to minimise the costs of component production and to reduce the flow time of products and information, while maintaining the quality of products and service required by customers. A strategy intended to reduce the manufacturing costs is to cooperate with material suppliers from emerging markets. The strategy has been developing nowadays and there are no premises to disturb this process.

In the author's opinion further research should be carried out in two directions:

1. Further, cyclical analysis of supply chain changes resulting from development of emerging markets procurement process. Thus, it shall be necessary to repeat the research after the five years period i.e. in 2024 (previous research was carried out in 2012 and 2018).
2. Analysis of modern, turbulent and competitive global environment. It shall provide the way of conducting the procurement process (whether to continue the cooperation with the emerging markets, if so - which in particular?).

Main research limitations will be the size and the structure of research sample in comparison to the research previously conducted, however still aiming to sustain the research efforts.

## **6. REFERENCES**

Amadeo, K. (2019). What Are Emerging Markets? Five Defining Characteristics [available at: <https://www.thebalance.com/what-are-emerging-markets-3305927>, access April 9, 2019]

Commission Regulation (EC) No 70/2001 of 12 January 2001 on the application of Articles 87 and 88 of the EC Treaty to State aid to small and medium-sized enterprises

Galińska, B. (2018). Logistics Megatrends and Their Influence on Supply Chains, *18th International Scientific Conference Business Logistics in Modern Management*, Dujak, D. (Ed.) Faculty of Economics in Osijek, Osijek, 11-12 October 2018

Gröhn, J. (2006). Competitiveness through sustainability in Logistics policies and modeling. Formulation of logistics Policies, *TRANSFORUM 3rd Forum Meeting*, Amsterdam, 6 April 2006

Hu, A., Yan, Y. & Wei, X. (2014). *China 2030*, Berlin: Springer

India's Culture Guide (2019). [available at: <http://www.iccrindia.net/economy/>, access April 11, 2019]

Kenton, W. (2019). Emerging Market Economy [available at: <https://www.investopedia.com/terms/e/emergingmarketeconomy.asp>, access April 10, 2019]

Kerkhoff, G. (2005). *Zukunftschance Global Sourcing*, Weinheim: Wiley-Vch

Marszałek- Kawa, J. (Ed.) (2008). *Chinese foreign policy and its conditions*, Toruń: Adam Marszałek

Matejun, M. (2018). Variability of dynamic capabilities in the small business development process, *Journal of Administrative and Business Studies*, 4(5), p. 237-246

MSCI (2019). Morgan Stanley Capital International Index [available at: <https://www.msci.com/acwi>, access April 9, 2019]

Para, A. (2015). India - a country of unlimited business opportunities [available at: <http://www.polandgoglobal.pl/artykuly/indie-kraj-nieograniczonych-mozliwosci-biznesowych#.WTmiAnxSDIX>, access April 12, 2019]

Pines, L. (2019). China Commodity Imports & Exports: How China Continues To Dominate World Trade [available at: <https://commodity.com/china/>, access August 19, 2019]

Portal Importuj z nami (2019). Import towarów z Chin do Polski [available at: <http://importujznami.pl>, access April 12, 2019]

Sraders, A. (2018). What Are Emerging Markets? Characteristics and List in 2019 [available at: <https://www.thestreet.com/markets/emerging-markets/what-are-emerging-markets-14819803>, access April 10, 2019]

Zinzius, B. (2019). *China Business. Der Ratgeber zur erfolgreichen Unternehmensführung im Reich der Mitte*, Wiesbaden: Springer