

IDENTIFICATION AND DESCRIPTION OF CHANGES IN THE PRODUCTION STRATEGIES OF AUTOMOTIVE COMPANIES IN THE CONTEXT OF INTERNATIONALIZATION

DOI: 10.2478/czoto-2026-0004

Received: 04/12/2025

Accepted: 20/01/2026

Piotr Kuraś – *orcid id: 0000-0003-4902-2748, e-mail: piotr.kuras@pcz.pl*
Czestochowa University of Technology, Częstochowa, **Poland**

Abstract: One of the most important processes in the modern global economy is the internationalization and globalization of economic activity. Adopting an internationalization strategy means, among other things, that a company must acquire the ability to use globally dispersed factors of production. Various production strategies play an important role in the process of formulating a general internationalization strategy. The aim of this article is to identify the most important production strategies used by companies in the automotive sector from the point of view of the internationalization process. Research has shown that the most important strategies are: diversification and specialization, product standardization strategy, strategies based on time advantage, and strategies towards suppliers. The article uses mixed research methods. The starting point was literature studies. The research proper was conducted using a qualitative approach. The core consisted of case studies supported by data from secondary sources. The article shows how firms pursue growth through sectoral or product diversification. It explains horizontal and vertical unification as key strategies shaping product development. It also examines efficiency tools: *just-in-time*, *lean production*, TQM, and *kaizen* and notes the industry's evolution from classic mass production toward increasingly widespread modular assembly.

Keywords: production, strategy, internationalization, globalization.

1. INTRODUCTION

For several decades, the process of internationalization of business operations has played a crucial role in the global economy. It has been largely responsible for the emergence of new economic trends, which involve treating the entire world as a single common market within which companies operate. The increasingly open economic policies of individual countries have translated into a reduction in tariff and non-tariff barriers. The free flow of capital, people, and information has led to a growing convergence of consumer tastes worldwide. From a company's perspective, this has translated into the need to compete globally. These circumstances have presented companies with new challenges, but also new opportunities for gaining competitive advantage and business growth.

Operating in such conditions necessitates the adoption of a specific development strategy – an international development strategy. Choosing an internationalization strategy means



managing in a global environment, i.e., focusing on foreign markets, global competition, and the ability to utilize globally dispersed production factors. Various production strategies play a significant role in formulating an internationalization strategy. In this paper, the most important of them were analyzed, i.e. diversification and specialization, product standardization strategy, time-based strategies and supplier strategies.

The aim of this article is to identify and describe the most important production strategies used by companies in the automotive sector from the point of view of internationalization. It is assumed that the general (leading) strategy is the strategy of internationalization, while production strategies are functional (supporting) strategies. The description of production strategies is limited to determining whether and how a given production strategy supports the internationalization process. Previous scientific studies have focused on specific production strategies. The innovative nature of this study lies in its attempt to identify those production strategies that have the greatest impact on internationalization and to indicate the reasons for their use. The results of the study provide a better understanding of why companies use specific production strategies and what consequences this has for transformations across the entire automotive sector. In particular, for determining the overall mode of operation of a company (specialization/diversification), product design (standardization), non-cost ways of competing (time), and relationships with suppliers.

2. THEORETICAL BACKGROUND

Internationalization refers to the expansion of a company's activities beyond its home country in search of better development opportunities. Its causes are complex and stem from interrelated economic, business, and social factors. It is a multidimensional and dialectical process shaped by seemingly opposing tendencies, such as homogenization vs. differentiation or globalization vs. regionalization.

According to Johanson and Wiedersheim-Paul (1975) and Johanson; Vahlne (1990), internationalization is gradual and evolutionary: enterprises typically start with exports, then engage in various forms of cooperation, and finally undertake direct investments offering the highest control. This approach, known as the "Uppsala model," still has many supporters. Critics, however, argue that it reflects the slow pace of internationalization in the 1970s and does not fully explain contemporary strategic choices. Later, Johanson and Mattson (1988) and Root (1987) emphasized that internationalization depends largely on the business environment and the benefits expected from foreign expansion.

Although difficult to capture in a single framework, internationalization is commonly associated with increased engagement in foreign markets (Welch and Luostarinen, 1988), with activities outside national borders (Rymarczyk, 2004), or with geographical dispersion of operations (Przybylska, 2010). The spread from domestic to multiple international markets is often highlighted (Misala, 2005).

Companies pursue internationalization through different organizational forms, with globalization seen as its most advanced stage (Fischer, 1998; Zorska, 1998; Gwiazda, 2000; Gierszewska and Wawrzyniak, 2001; Flejterski and Wahl, 2003). Mittelman (1996) describes globalization as a spatial reorganization of production, cross-border industry penetration, financial market expansion, and the spread of similar products worldwide. Bairoch and Kozul-Wright (1996) treat it as a process linking national production and economic systems through more cross-border transactions and a new international division of labor. Early contributions by Levitt (1991) and Rugman and Hodgetts (1995)

saw globalization as the worldwide production and distribution of goods and services. McGrew (1992) points to intensified global interdependence among states and societies. In essence, globalization is both an expansion in scope and a deepening of international connections, and is frequently viewed as a consequence of enterprise internationalization.

3. METHODOLOGY OF RESEARCH

The research combined two complementary methods. First, an extensive review of existing literature was conducted to identify the current state of knowledge on the topic. Next, a qualitative case-based approach was applied. The procedure involved several stages.

A detailed analysis of monographs and scientific articles was conducted using reputable databases, including Scopus, Web of Science, and ScienceDirect. The reviewed publications focused on enterprise internationalization and enterprise strategy.

An analysis of the literature has identified a research gap. It has been found that insufficient attention is paid to changes in companies' production strategies that intensify the internationalization process or, conversely, result directly from this process. This has allowed us to formulate a research objective. The main aim of the article is to identify and describe the directions of change in the enterprises' production strategies. The research covered the activities of enterprises in the automotive sector.

Data was obtained from various sources: international institutions (European Commission, 2020), industry organizations (VDA..., 2002; 2020), market reports, enterprise reports (BMW Group..., 2020; Ford..., 2021; General Motors..., 2000; Mitsubishi..., 2000; Nissan... 2000a, 2000b, 2022; Toyota 2002; 2020a, 2020b; Volkswagen..., 2020) press articles (The Economist 2019; The Wall Street..., 2020), and websites. The collected information was thoroughly verified and analyzed in accordance with the study's objectives, and standard qualitative research principles were then applied. The article concludes with observations and practical recommendations addressed to both researchers and managers responsible for strategic decision-making. Due to the scattered and incomplete nature of the source data, it was impossible to conduct comparative analyzes or examine changes over time using quantitative tools. As a result, some cause-and-effect relationships may remain unnoticed or underestimated in this article.

4. RESULTS AND DISCUSSION

4.1. Specialization and diversification – two paths of development

There are essentially two possible paths for the development of manufacturing companies: diversification and specialization. These strategies are widely described in the literature. These issues have been discussed, among others, in the following publications: Karlsson and Sköld, 2018; Kito, et al., 2018; Gerőcs and Pinkasz, 2019; Nomaler and Verspagen, 2021.

General Motors, among others, demonstrates a high degree of sectoral diversification. Back in the 1930s and 1940s, it implemented a production diversification strategy by entering the aerospace sector. It then expanded into the electronics and home appliance sectors. Currently, GM also operates in IT, robotics, military electronics, and produces locomotives.

Another example is the Fiat Group. Before the creation of the multinational automotive company Stellantis in 2021, it was Italy's largest industrial group. It produced in over 50

countries and sold its products in over 180 countries. It had over 1,000 subsidiaries and employed over 220,000 employees. Fiat began its operations with passenger cars and subsequently expanded its business to include commercial vehicles, trucks, and buses, tractors and agricultural machinery, metallurgy, components and production systems, and non-automotive divisions: rolling stock, aircraft, publishing, communications, and insurance.

Renault was also highly diversified until the 1970s. However, in the face of the global economic crisis of the mid-1970s, it decided to focus on car manufacturing.

Daimler-Benz also pursued a diversification strategy. The company consisted of four product groups: Mercedes-Benz produced passenger cars, trucks, and commercial vehicles; AEG produced industrial automation, household appliances, communication systems, and electronics; DEBIS – Daimler Benz Interservices developed IT systems, financial services, insurance, and marketing services; and Deutsche Aerospace – aircraft, armaments, and space technologies.

BMW's diversification strategy was implemented through cross-sectoral agreements. An example is the alliance with Rolls-Royce, one of the world's most significant aircraft engine manufacturers. The main motivation for diversifying production within sectors is the need to leverage the potential benefits of related diversification rather than unrelated diversification. This creates synergistic effects and reduces operational risk. Most automotive companies, including Japanese Honda, employ related diversification. They develop all their products (cars, motorcycles, gardening equipment, snowmobiles, and power generators) using their engine-building expertise. Toyota, which offers passenger cars, trucks, buses, forklifts, construction equipment, and commercial services, also adopted a related diversification strategy.

The examples presented demonstrate that automotive companies often employ a diversification strategy. Related diversification is inherent to all companies, and some also employ sector diversification. In some cases (GM), the diversification process began very early in the development of these companies, and is therefore historically conditioned to some extent. This strategy increases a company's chances of survival during a severe economic crisis by spreading the risk of generating revenue across various sectors.

Automotive companies differ significantly in their level of business diversification. It is also impossible to give a clear answer to the question of which strategy is better. For example, GM is characterized by a strong market position and strong production diversification across industries. In contrast, the even more diversified Fiat was at one time threatened with takeover (by GM, incidentally). Ultimately, however, Fiat defended its position.

Daimler-Benz's highly diversified structure did not prevent it from seeking ways to strengthen its market position. An attempt to achieve this goal through a merger with Chrysler, however, ended in failure.

By contrast, Ford is narrowly specialized. Companies such as Toyota, Volkswagen, Renault, PSA, and Nissan employed related diversification. In the 1990s, however, the now-popular trend of expanding product offerings emerged. Currently, every car manufacturer offers previously unknown SUVs (*sport utility vehicles*) and their smaller *crossover* counterparts.

The emergence of demand for hybrid and electric cars has completely reshaped the market. It took Tesla and Chinese manufacturers about two to three decades to reach the level of development that traditional companies often achieved over a century. In addition to cars powered by internal combustion engines, there are cars powered solely by

electricity stored in batteries, known as BEVs (*battery electric vehicles*). There are also HEVs (*hybrid electric vehicle*). These have two power sources: a traditional internal combustion engine, and a battery. During slow driving, they use the energy stored in the batteries, and when necessary, the internal combustion engine also engages. These cars, called *full hybrids*, recover energy during braking and engine operation and store it in the batteries. *Plug-in hybrids* (PHEVs) are also available. They charge by recuperating energy while driving, but also by an external source of electricity thanks to a charging socket. In addition to those described above, *fuel cell electric vehicles* (FCEVs) are being developed. These are powered by electric motors that run on hydrogen stored in tanks.

4.2. Unification as a product development strategy

Standardization in the automotive sector is the subject of many scientific studies, for example: Gerst and Bunduchi, 2005; Gaillard, 2006; Antonioli, et al., 2017; Azevedo, et al., 2019.

The automotive sector is characterized by a wide range of standardization levels. It includes companies offering highly standardized products (Honda) and those whose products are poorly differentiated (GM). However, what they all have in common is a constant striving to increase the level of standardization of their products.

The most highly standardized platform is the car's platform. This is the car's contoured skeleton to which other components are attached. Its development costs reach 30% of the total R&D expenditure on a new vehicle. Total operating costs can be significantly reduced by using the same universal component across multiple models (sedan, station wagon, compact, minivan, cabrio).

Modern design methods and flexible production systems facilitate an expansion of product range while simultaneously adapting products to the requirements of local markets. The various car models offered by manufacturers (usually a dozen) are often just variants of the same product, with the only distinguishing elements being body style, engine, and equipment. In reality, there are only a few basic designs (4-6), allowing production to be focused on a relatively small number of basic components. Designers strive to maintain compatibility between existing and newly designed components. This shortens the time needed to develop a new model. In the late 1990s, the ultra-fast manufacturer Honda developed new models in just one year.

The concept of standardizing car components originated in the American industry in the 1960s. It involved introducing minor styling changes annually, and body changes every 3-4 years. The chassis and engines remained unchanged for a long time. GM's standardization went so far that it installed identical engines in expensive Cadillac models as in budget Chevrolets. This created a problem with brand identity and prestige, which manufacturers today want to avoid.

The current standardization strategy still pursues the same goal: cost reduction. Currently, only different methods are used. Components invisible to the average customer are subject to significant standardization. Decorative elements, instrument panels, door handles, and upholstery must be distinctly differentiated to maintain the distinctiveness of the individual brands. After all, a Rolls-Royce can't look like the sports models of BMW (both brands have the same owner). Just as Bentley must differentiate itself from Škoda, and Alfa Romeo and Lancia from Fiat (the same situation).

As a result of production unification, the problem of brand identity arose within the Volkswagen Group after the acquisition of Seat and Škoda. At that time, the decision was

made to implement a common platform for all four of the Group's brands: Audi, Volkswagen, Seat, and Škoda. As a result, as many as eight different models (VW Golf, VW Bora, VW New Beetle, Audi A3, Audi TT, Seat Leon, Seat Toledo, and Škoda Octavia) could be built on a single platform. These cars were also equipped with common engines and transmissions. Despite the use of common, fully standardized parts, marketing efforts aimed to clearly emphasize the distinctiveness of these brands. PSA also employed a similar strategy. In 2001, over 60% of all the group's models (Peugeot and Citroën vehicles) were built on just two platforms. Fiat, meanwhile, was producing Fiat, Lancia, and Alfa Romeo vehicles on a common platform at the time.

In addition to horizontal unification, Toyota implemented an ambitious vertical unification plan. It was assumed that each subsequent model would use 70% of the parts from its predecessor. Simplified components contributed to a 20-30% increase in production by the mid-1990s.

This unification strategy allows for a better cost position in the global market. However, excessive unification can lead to undesirable market reactions. For example, a project to jointly produce a minivan between Volkswagen and Ford ended in failure. Vehicles sold as the VW Sharan, Ford Galaxy, and Seat Alhambra shared a common platform and nearly identical bodies. The only element that strongly differentiated Ford from other brands was the engine. The main reason for the project's market failure is blamed on the vehicles' excessive external similarity. To avoid the mistakes of competitors, PSA established a 60% commonality of components for the Peugeot and Citroën vehicles it produces under its various brands.

4.3. Competing with time and flexibility

Concepts of competing on the basis of time advantage are well described in the literature. The following authors, among others, have written about the Just-in-time concept: Kaneko and Nojiri 2008; Monden, 2011a; Lai and Cheng, 2016; Choi, et al., 2023. Research on lean production has been conducted, for example, by: Holweg, 2007; Jasti and Kodali, 2015. The integrated approach to production used at Toyota has been described in works such as: Sugimori, et al., 1977; Pegels, 1984; New, 2007; Monden, 2011b; Ohno, 2019. The first radical changes in the production system in the automotive sector were introduced by Henry Ford. The basis of his mass production system was the decentralization of production activities and the standardization of components. Through specialization and standardization of activities, as well as a revolutionary work organization based on the precise division of tasks, Ford ensured his company's record production rates and low prices for its products.

Further revolutionary changes were brought about by the just-in-time system developed at Toyota plants. Its foundation is the elimination of waste, which is considered to be any activity that does not create added value. Current market conditions require the production of a wide range of products in small batches, thus contributing to the emergence of flexible manufacturing systems. These systems are characterized by the ability to respond quickly to changing external conditions, and are characterized by decentralization and the shifting of planning and control decisions to lower management levels. The concept of *lean production* originated in *just-in-time* and flexible production systems. Similar to *just-in-time*, it assumes the elimination of non-value-added operations (Brown 1996), but it treats the issue of waste elimination in a much broader context (Laskowska 2002).

It was these innovative production and organizational solutions that enabled the Japanese to begin their international expansion in the 1960s. A new source of their competitive advantage in the 1980s was the reduction of R&D lead times, project implementation times, production process improvements, and shorter delivery times. Based on these advantages, Toyota developed the now legendary Toyota Production System, a flexible production system combining the concepts of *just-in-time*, *total quality management*, and continuous improvement (*kaizen*). In the *just-in-time* system, time is considered the equivalent of capital (less financial resources invested in inventories), productivity (more in less time), and even quality and innovation. The flexibility of the Toyota system lies primarily in the ability to quickly reprogram machines and equipment to meet the requirements of the currently manufactured car model. Characteristic features of flexible systems include the ability to produce in short batches and expand product ranges while maintaining low costs. Unlike mass production methods, repairs to potential defects do not occur at the finished product stage, but are performed continuously throughout the production cycle.

The idea of a *just-in-time* system is a closely linked supply, production, and distribution system combining advanced technologies, production methods, and management methods. The main goal of the system is to almost completely eliminate inventory and shorten order fulfillment times. In *just-in-time*, suppliers must adapt to their customers' production flows. For example, when a car rolls off the assembly line, the accounting systems record this, and an order is automatically placed with the supplier. In this supply pyramid, any malfunction has cascading consequences throughout the entire production cycle. The *just-in-time* system involves selecting a supplier. Honda was a pioneer in this field. A special supplier selection procedure was implemented. This involves assigning inspection teams to potential partners to verify their compliance with pre-defined quality criteria. A team of supplier specialists, working directly at Honda's plants, analyzes the customer's expectations against its own strategic goals. This method of partner-subcontractor verification significantly minimizes operational risk.

4.4. Strategies for cooperation with subcontractors

The change in strategy towards suppliers in the automotive sector was often driven by changes in the production system. The modular production system is an example of this. It is described in detail in the following works: Collins, et al., 1997; Lara, et al., 2005; Frigant & Layan, 2009; Pandremenos, et al., 2009.

The automotive sector has changed dramatically in recent decades. The high level of product complexity no longer allows for the consolidation of all essential manufacturing operations within a single entity. Relationships between manufacturers and suppliers are evolving toward partnerships that stimulate the continuous improvement of mutual qualifications and competencies. Classic commercial relationships are increasingly being replaced by vertical partnerships. Suppliers must flex their own organizational structures to quickly and seamlessly adapt to the evolving production systems of their partners. Maintaining and developing partnerships is now becoming a fundamental strategic weapon in the automotive sector. Joint efforts to develop the necessary technologies ensure competitive pricing and a competitive level of quality (Garrette & Dussauge 1996). Two fundamental models of cooperation between manufacturers and suppliers can be distinguished in the automotive sector. The most common solutions adopted by European and American manufacturers are vertical integration and collaboration with multiple

suppliers who compete on quality and price. Their role in the car production cycle is limited to the delivery of a specific component. In the Japanese model, long-term contracts with suppliers serve as a tool for integration within the vertical chain, as cooperation between the customer and suppliers is highly advanced. The number of suppliers is significantly smaller than in the European-American model. The few suppliers working directly with customers provide them with components or entire component modules. They not only manufacture the final product but also actively participate in its design phase. They typically outsource the production of some components to lower-tier suppliers, who in turn collaborate with higher-tier suppliers. In the Japanese model, suppliers working directly with the customer assume some of the car manufacturer's responsibilities, such as responsibility for the quality of products delivered by sub-suppliers. In a *just-in-time* system, where there is no room for quality inspections and time is of the essence, it is crucial to limit the number of suppliers and delegate some of their responsibilities to them. For example, in 1995, Toyota collaborated with 172 direct suppliers, with approximately 125 subcontractors per production plant. By comparison, the total number of suppliers to American GM was 5,500, and the assembly lines of its production plants received components from an average of 800 subcontractors (Takeishi & Cusumano, 1995). The abandonment of vertical integration and the transfer of some tasks to suppliers is referred to in management theory as outsourcing. Vertical partnerships have long been used by Japanese manufacturers within the *keiretsu* framework, which refers to the informal grouping of suppliers with capital ties to their customers.

Modular assembly is crucial in the automotive sector (Fig. 1). It significantly reduces production time and the lead time for individualized customer orders. The concept of creating modules, which, when combined in various configurations, result in a customized product, is particularly important. Product differentiation in modular production occurs at the manufacturing stage. In mass production, however, it is a derivative of marketing activities.

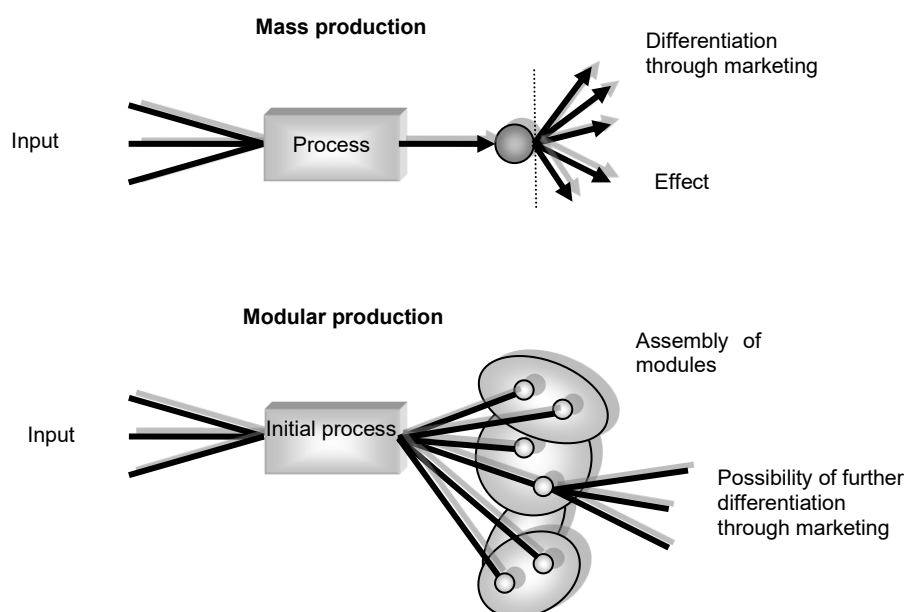


Fig. 1. Mass production vs. modular production

Source: Laskowska, 2002, p. 218.

GM implemented modular assembly in its Brazilian plants in 2000. Suppliers were entrusted with the production of entire modules, which allowed for a significant reduction in direct assembly employment and a reduction in the time required to produce a specific vehicle. This enabled operational profitability to be achieved with a much smaller production volume than with traditional assembly.

3. CONCLUSION

The automotive sector comprises both highly specialized and highly diversified companies. The most common model is related diversification, which allows for building a competitive advantage around a single product/component (e.g., an engine). Each type of diversification requires the acquisition of new competencies and experience, as well as the acquisition of significant capital to finance additional business areas. On the other hand, a diversified company, faced with economic crises, can offset losses in one sector with profits in others, thus reducing the risk of bankruptcy.

The automotive sector employs a strategy of horizontal unification and vertical unification. Horizontal unification involves building as many models as possible based on the same components. A good example is VAG, owner of the Volkswagen, Audi, Škoda, and Seat brands. Vertical unification involves building subsequent generations using as many components from the previous generation as possible.

Systems incorporating solutions such as *just-in-time*, TQM, flexible structures, flexible manufacturing, and *lean production* enabled Japanese companies to achieve above-average quality and price leadership. In the 1990s, as continental manufacturers understood and adopted the principles governing these systems, Japanese companies were stripped of their previous advantages and were forced to seek new sources. Toyota continually refined its car assembly system. The goal was to produce even smaller batches while simultaneously reducing costs. A rule was introduced that each subsequent model must inherit approximately 70% of the parts from its predecessor, and each subsequent generation of components must be significantly simplified. It was also assumed that the company's growth would facilitate the transfer of operations to new foreign markets that possessed comparative advantages, a high-potential domestic market, or significant strategic importance. In practice, this meant intensifying the internationalization process.

In the global automotive sector, there is a strong trend toward outsourcing design and manufacturing of entire components, such as braking systems, steering systems, and suspension systems. As a result, economic literature sometimes argues that automotive companies are not manufacturers in the classic sense, but rather vehicle brand owners, under which products are marketed, the vast majority of which are actually manufactured by others. For example, as early as the 1980s, the share of parts manufactured in-house by Japanese manufacturers was only 25-30% of all components used in car production. For American manufacturers, in the mid-1990s, these figures were as follows: Chrysler 30%, GM 50-70%. European manufacturers' share ranged between 30-70% (Takeishi & Cusumano 1995).

The conclusions and generalizations presented in this article do not fully encompass the research topic. This is hampered by the lack of uniform data and information, and the difficulty in accessing them. Knowledge is fragmented and unstructured. The author is aware of these shortcomings and the consequences for the content and importance of the reports presented here. Another limitation is that the dynamics of change and

transformation currently underway in the automotive industry translate into the need for further research in this area. The development of alternatively fueled vehicle segments and the rapid growth of new markets, particularly China, mean that the issues discussed here are insufficient. These changes are reflected in the production strategies of companies in the automotive sector. Future research should focus on identifying these changes, describing them, and attempting to assess their impact on the overall process of internationalization.

REFERENCES

- Antoniolli, I., Guariente, P., Pereira, T., Ferreira, L. P., Silva, F. J. G., 2017. *Standardization and optimization of an automotive components production line*. *Procedia Manufacturing*, 13, 1120-1127.
- Azevedo, J., Sá, J. C., Ferreira, L. P., Santos, G., Cruz, F. M., Jimenez, G., Silva, F. J. G., 2019. *Improvement of production line in the automotive industry through lean philosophy*. *Procedia Manufacturing*, 41, 1023-1030.
- Bairoch, P., Kozul-Wright, R. 1996. *Globalization myth: Some historical reflections on integration*, United Nations Conference on Trade and Development, New York.
- BMW Group. 2021. *BMW Group Report 2020*, Bayerische Motoren Werke, Munich.
- Brown, S., 1996. *Strategic manufacturing for competitive advantage*, Prentice Hall, London.
- Choi, T. Y., Netland, T. H., Sanders, N., Sodhi, M. S., Wagner, S. M., 2023. *Just-in-time for supply chains in turbulent times*. *Production and Operations Management*, 32(7), 2331-2340.
- Collins, R., Bechler, K., Pires, S., 1997. *Outsourcing in the automotive industry: from JIT to modular consortia*. *European Management Journal*, 15(5), 498-508.
- European Commission. 2020. *Commission approves the merger of Fiat Chrysler Automobiles N.V. and Peugeot S.A., subject to conditions*, https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2506, [Retrieved September 10, 2025].
- Fischer, B. 1998. *Globalisation and the competitiveness of regional blocs*, *Intereconomics* 4.
- Flejterski, S., Wahl, P.T. 2003. *Ekonomia globalna. Synteza*. Wydawnictwo Difin, Warszawa.
- Ford Motor Company. 2022. *Ford Motor Company. Annual Report 2021*.
- Frigant, V., Layan, J. B., 2009. *Modular production and the new division of labour within Europe: the perspective of French automotive parts suppliers*. *European Urban and Regional Studies*, 16(1), 11-25.
- Gaillard, C. L., 2006. *An analysis of the impact of modularization and standardization of vehicles electronics architecture on the automotive industry* (Doctoral dissertation, Massachusetts Institute of Technology).
- Garrette, B., Dussauge, P. 1996. *Strategie aliansów na rynku*, Poltext, Warszawa.
- General Motors Company. 2021. *GM. Annual Report 2020*.
- Gerőcs, T., Pinkasz, A., 2019. *Relocation, standardization and vertical specialization: Core-periphery relations in the European automotive value chain*. *Society and Economy*, 41(2), 171-192.
- Gerst, M., Bunduchi, R., 2005. *Shaping IT standardization in the automotive industry—the role of power in driving portal standardization*. *Electronic Markets*, 15(4), 335-343.
- Gierszewska, G., Wawrzyniak, B. 2001. *Globalizacja. Wyzwania dla zarządzania strategicznego*, Poltext, Warszawa.
- Gwiazda, A. 2000. *Globalizacja i regionalizacja gospodarki światowej*, Wydawnictwo Adam Marszałek, Toruń.
- Holweg, M., 2007. *The genealogy of lean production*. *Journal of operations management*, 25(2), 420-437.
- Jasti, N. V. K., Kodali, R., 2015. *Lean production: literature review and trends*. *International Journal of Production Research*, 53(3), 867-885.

- Johanson, J., Wiedersheim-Paul, F. 1975. *The internationalization of the firm – Four Swedish cases*, Journal of Management Studies, 12, pp. 305-322.
- Johanson, J., Mattsson, L.G. 1988. *Internationalisation in industrial systems – A network approach*, in: Hood, N., Vahlne, J.E. (ed.), *Strategies in global competition*, Croom Helm, New York.
- Johanson, J., Vahlne, J.E. 1990. *The mechanism of internationalization*, International Marketing Review, 7, pp. 11-23.
- Kaneko, J., Nojiri, W., 2008. *The logistics of Just-in-Time between parts suppliers and car assemblers in Japan*. Journal of transport geography, 16(3), 155-173.
- Karlsson, C., Sköld, M., 2018. *Specialization and commonalization in multi-branded manufacturing corporations: Learnings from automotive industries*. International Journal of Operations & Production Management, 38(1), 67-89.
- Kito, T., New, S., Reed-Tsochas, F., 2018. *Disentangling the complexity of supply relationship formations: Firm product diversification and product ubiquity in the Japanese car industry*. International Journal of Production Economics, 206, 159-168.
- Lai, K. H., Cheng, T. E., 2016. *Just-in-time logistics*, Routledge, London.
- Lara, A. A., Trujano, G., Garcia-Garnica, A., 2005. *Modular production and technological up-grading in the automotive industry: a case study*. International Journal of Automotive Technology and Management, 5(2), 199-215.
- Laskowska, A. 2002. *Konkurowanie czasem – strategiczna broń przedsiębiorstwa*, Difin, Warszawa.
- Levitt, T. 1991. *The globalization of markets*, in: Vernon-Wortzel, H., Wortzel, L.H. (ed.), *Global strategic management. The essential*, Wiley & Sons, New York.
- McGrew, A. 1992. *Conceptualizing global politics*, in: McGrew, A., Lewis, P.G. (ed.), *Global politics*, Polity Press, Cambridge.
- Misala, J. 2005. *Teorie biznesu międzynarodowego*, in: Nowakowski, M.K. (ed.), *Biznes międzynarodowy. Od internacjonalizacji do globalizacji*, Oficyna Wydawnicza SGH, Warszawa.
- Mitsubishi Motors Corporation. 2000. *Facts & figures*, Tokyo.
- Mittelman, J.H. (ed.). 1996. *Globalization. Critical reflections*, Lynne Rienner Publishers, Boulder.
- Monden, Y. (2011a). *Adaptable kanban system maintains Just-In-Time production*. In: *Toyota production system: an integrated approach to just-in-time*, Boston, Springer, 15-35.
- Monden, Y., 2011b. *Toyota production system: an integrated approach to just-in-time*. CRC Press.
- New, S. J., 2007. *Celebrating the enigma: the continuing puzzle of the Toyota Production System*. International Journal of Production Research, 3545-3554.
- Nissan Motor Corporation. 2000a. *Nissan. Annual Report*.
- Nissan Motor Corporation. 2000b. *Nissan 2000. Fact File*.
- Nissan Motor Corporation. 2022. *Sustainability Report 2021*, Nissan Motor Corporation,
- Nomaler, Ö., Verspagen, B., 2021. *Patterns of Diversification and Specialization*. in: *New perspectives on structural change: causes and consequences of structural change in the global economy*, Oxford University Press, 298-316.
- Ohno, T., 2019. *Toyota production system: beyond large-scale production*, Productivity Press, New York.
- Pandremenos, J., Paralikas, J., Salonitis, K., Chrysosolouris, G., 2009. *Modularity concepts for the automotive industry: A critical review*. CIRP Journal of Manufacturing Science and Technology, 1(3), 148-152.
- Pegels, C. C., 1984. *The Toyota production system – lessons for American management*. International Journal of Operations & Production Management, 4(1), 3-11.
- Przybylska, K. 2010. *Born global – nowa generacja małych przedsiębiorstw*, Gospodarka Narodowa, 7-8, s. 63-84.
- Root, F.R. 1987. *Entry strategies for international markets*, Lexington Books, Lexington.
- Rugman, A.M., Hodgetts, R.M. 1995. *International business. A strategic management approach*, McGraw-Hill, New York.
- Rymarczyk, J. 2004. *Internacjonalizacja przedsiębiorstwa*, PWE, Warszawa.

- Sugimori, Y., Kusunoki, K., Cho, F., Uchikawa, S., 1977. *Toyota production system and kanban system materialization of just-in-time and respect-for-human system*. The International Journal of Production Research, 15(6), 553-564.
- Takeishi, A., Cusumano, M. 1995. *What we have learned and have yet to learn from manufacturer-supplier relations in the auto industry*, working paper, The International Center for Research on the Management of Technology, MIT Sloan.
- The Economist. 2019. *A merger of Fiat Chrysler Automobiles and Renault is no more*, June 8th.
- The Wall Street Journal. 2020. *Fiat Chrysler to be renamed Stellantis after merger with PSA*, July 15th.
- Toyota Motor Corporation. 2002. *Toyota. Data Book 2002*, Tokyo.
- Toyota Motor Corporation. 2020a. *Toyota. Environmental Report 2020*.
- Toyota Motor Corporation. 2020b. *Sales, production and export results. Detailed data*, <https://global.toyota/en/company/profile/production-sales-figures>, [Retrieved September 22, 2025].
- VDA. 2002. *Auto. Annual Report 2001*, Verband der Automobilindustrie, Frankfurt a.M, [Retrieved September 22, 2025].
- VDA. 2020. *Annual Report 2020. The automotive industry in facts and figures*, Verband der Automobilindustrie, Berlin, [Retrieved September 22, 2025].
- Volkswagen AG. 2021. *Volkswagen Group. Annual Report 2020*, Volkswagen AG, <https://annualreport2020.volkswagenag.com/>, [Retrieved September 22, 2025].
- Welch, L., Luostarinen, R. 1988. *Internationalization: Evolution of a concept*, Journal of General Management 14, s. 34-55.
- Zorska, A. 1998. *Ku globalizacji? przemiany w korporacjach transnarodowych i w gospodarce światowej*, Wydawnictwo Naukowe PWN, Warszawa.