SILESIAN UNIVERSITY OF TECHNOLOGY PUBLISHING HOUSE

SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY 2026
ORGANIZATION AND MANAGEMENT SERIES NO. 243

ASSESSMENT OF THE RELATIONSHIP BETWEEN LOGISTICS CAPABILITIES INFLUENCING THE SUCCESS OF THE FIRMS

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Purpose: The aim of this article is to present the results of research conducted on the relationships between logistics capabilities in the context of achieving a firm's success
Design/methodology/approach: The research results presented were obtained through a literature review and structural analysis using the MIC-MAC program.
Findings: An assessment was conducted on the direct and indirect relationships between logistics capabilities affecting the determinants of a firm's success.
Research limitations/implications: Further research in the field of firm logistics capabilities should focus on identifying variations in the relationships between capabilities based on the firm's profile, as well as examining the interrelationships among logistics capabilities themselves.
Practical implications: The research findings offer guidance to firms seeking to attain success by developing their logistics capabilities and the interrelationships among them.
Originality/value: The findings reveal novel analyses that assess the extent of the relationship between logistics capabilities and the key determinants of firm success.
Keywords: Logistic capabilities, success, capabilities.
Category of the paper: Research paper.

1. Introduction

In the face of intense competition, rapid technological development, and changing conditions of business operations—including instability and the short-lived nature of competitive advantage—firms continuously seek new strategies to achieve success. A crucial role in attaining firm success is played by the firm's capabilities, which constitute a significant component of success potentials. Within the management context, logistics represents one of the key domains; therefore, logistics capabilities—understood as a specific set of competencies related to the efficient utilization of logistics resources—hold a prominent position in building organizational success. Sets of logistics capabilities influence the realization of desired market and economic outcomes that serve as indicators of firm success. Moreover, relationships of

varying degrees of dependency and intensity exist among different sets of logistics capabilities, which formed the basis for the empirical research conducted.

The aim of this article is to present the results of empirical research on the relationships between logistics capabilities have an impact on expected market and economic outcomes as determinants of firm's success. The article presents (1) an overview of firm and success logistics capabilities, (2) the research assumptions, and (3) the findings of the empirical study conducted.

2. Overview of firm success and logistics capabilities

Success can be understood both in social and economic dimensions. In the context of social life, success constitutes a fundamental social value, widely recognized and motivating the pursuit of specific actions. It is associated with the fulfillment of dreams and the achievement of goals, providing a sense of happiness (Paszenda, 2017). In the economic sphere, success pertains to the success of an firm, which is considered as the effective accomplishment of objectives. The success of a firm is linked to the completion of assigned tasks with the involvement of relatively fewer resources and means (Littler, Leverick, Wilson, 1993).

In this article, the success of a firm is identified with the achievement of expected success indicators, which result from the execution of specific activities aimed at accomplishing planned tasks (Matwiejczuk, 2014). These indicators manifest as market and economic outcomes identified through a literature review. Market outcomes include customer satisfaction, customer loyalty, trust, and market share, while economic outcomes encompass profit, profitability, and return on invested capital.

The indicated success outcomes are the result of leveraging the firm's success factors in the form of resources, capabilities, and competencies within the framework of defined success potentials of the enterprise (Matwiejczuk, 2014). Success potentials of a firm are a set of necessary conditions that must be fulfilled for the firm to achieve success, understood as attaining profit, fulfilling strategic objectives, and ensuring customer satisfaction (Gälweiler, 1987), as well as achieving positive results in the context of competition (Pümpin, 1986). These success potentials represent capabilities that serve as premises for strengthening the competitive position of the firm (Göpfert, 2000).

Given the significant role of logistics in the functioning of a firm, it is essential to distinguish logistics success potentials, which are specific resources and capabilities in the logistics domain, utilized and developed by firm to achieve favorable outcomes (Sennheiser, Schnetzler, 2008). Logistics success potentials are prerequisites for achieving profit, the expected level of customer service, and the strategic goals of the company (Blaik, 2001). Furthermore, they are critical in performing activities aimed at securing competitive advantages superior to those of

rivals (Pfohl, 1994). One of the key success factors within the logistics success potentials is the logistics capabilities of the firm, which form the basis of the empirical research conducted in this article.

Analyzing logistics capabilities, it is important to consider two fundamental interpretative perspectives that help to better understand their role and significance in the functioning of enterprises. The first perspective views logistics capabilities as a type of resource that enables more efficient utilization of other resources; in this sense, logistics capabilities are considered a subset of resources that allow a company to use its remaining assets more effectively and distinguish itself from competitors (Fernandes, Moori, Filho, 2018) or as a collection of firm resources supporting the achievement of strategic logistics objectives (Mathien, 2020). The second perspective regards logistics capabilities as complex bundles of skills resulting from possessed knowledge (Gligor, Holcomb, 2012) or as unique abilities that are acquired, maintained, and enhanced in competition based on time and quality (Mentzer, Min, Bobbitt, 2004).

The process of developing and enhancing logistics capabilities is intricate and time-consuming, occurring in a context of market competition where enterprises must efficiently leverage their logistics resources (Hofer, Jin, Knemeyer, 2021). From a resource-based view, logistics capabilities are characterized by a high degree of uniqueness and difficulty of replication by competitors (Olavarrieta, Ellinger, 2018). Moreover, they must exhibit rarity and significant value (Gligor, Holcomb, 2014). These capabilities encompass both internal and external aspects — the internal dimension pertains to functions such as planning, coordination, and integration of activities within the enterprise, especially through synchronization among various departments; the external dimension relates to relationships and collaboration with customers and suppliers. The integration of both dimensions enables comprehensive coordination of tasks both within the firm and in its broader business environment (Gligor, Holcomb, 2014). Certain characteristics of logistics capabilities may cause them to become key logistics capabilities within the framework of logistical success potentials.

3. Methods

The research process, which involved the assessment of relationships among logistics capabilities influencing market and economic outcomes—key indicators of a company's success—was divided into two stages. The first stage consisted of conducting expert surveys using a questionnaire, in which experts evaluated whether and to what extent individual logistics capabilities affect each other. To study the relationships between specific logistics capabilities impacting the firm's success, logistics capabilities identified through literature review and the author's own empirical research were utilized.

Based on the conducted research, six market outcomes were identified, including: customer satisfaction, customer loyalty, customer trust, absolute market share, relative market share, and served market share. The research also enabled the identification of seven economic outcomes: sales revenues, profit, net profit margin, return on assets, return on invested capital, return on equity, and return on investment. The study included eleven capabilities influencing market outcomes and fourteen capabilities affecting economic outcomes. The capabilities affecting market outcomes were: post-sales customer service, flexibility capabilities, supplier evaluation capabilities, process and activity assessment capabilities, organizational capabilities, learning capabilities, collaboration capabilities, transport reliability capabilities, responsiveness capabilities, supply chain management capabilities, and customer orientation capabilities. The logistics capabilities affecting economic outcomes included: cost management capabilities, supply chain management capabilities, demand management capabilities, distribution service efficiency, collaboration capabilities, transport reliability capabilities, quality assurance capabilities, broad distribution coverage capabilities, target market responsiveness capabilities, delivery management capabilities, learning capabilities, information management capabilities, standardization capabilities, and risk management capabilities.

The second stage of the research involved conducting a structural analysis (Impact Matrix Cross-Reference Multiplication Applied to a Classification) using the MIC-MAC program. The choice of structural analysis as the research method for assessing relationships among capabilities was justified by the fact that structural analysis allows for the organization and examination of mutually influencing factors, thereby enabling the identification of dependencies and relationships. Moreover, this method facilitates the study of interdependencies between variables whose relationships are not directly observable or evident (Wójcicki, Ładyżyński, 2008).

The structural analysis enabled the identification of relationships between logistics capabilities influencing both economic and market outcomes, as well as the classification of variables into groups according to their significance within the studied area. The groups of variables in structural analysis include: key factors, target factors, result factors, auxiliary factors, driving factors, regulating factors, external factors, and autonomous factors (Nazarko, Wnorowski, Kononiuk, 2011). Key factors are characterized by both a significant strength of influence and a high degree of dependence on other elements within the system. Target factors tend to exhibit greater variability under the influence of other factors than they exert on other variables themselves. In contrast, result factors demonstrate a limited capacity to exert influence while simultaneously showing a high level of dependence on other factors. Driving factors serve as important motors of influence, exerting strong effects on other system elements with a relatively low level of subordination. Regulating and auxiliary factors have minimal impact on other factors but play a crucial supportive role in the process of achieving objectives. External factors possess an influence strength lower than that of driving factors but display

greater activity compared to autonomous factors. Finally, autonomous factors are characterized by the lowest intensity of influence on the rest of the system (Ejdys, 2013).

The second stage of the structural analysis involved the preparation of two direct influence matrices: one for logistics capabilities impacting market outcomes and another for logistics capabilities affecting economic outcomes. To create the matrices necessary for the structural analysis, individual logistics capabilities were assigned acronyms. Subsequently, after developing the templates of the direct influence matrices, an expert survey was conducted to assess the mutual interactions among the logistics capabilities. Experts evaluated the strength of influences using a five-point scale, where 0 indicated no influence, 1 – weak influence, 2 – moderate influence, 3 – strong influence, and P – potential influence. The study involved 17 experts representing both the academic environment and the manufacturing sector. The experts were selected through purposive sampling in accordance with the selection principles adopted in the third stage of the research process, within the framework of the Delphi method.

4. Results

Based on the initial phase of the study, which involved the assessment of the degree of dependency among logistics capabilities, direct influence matrices were developed for the capabilities impacting market outcomes and economic outcomes. The values in the matrices were determined based on the dominant evaluations of the influence strengths of individual logistics capabilities as identified by experts, and are presented in Table 1.

Table 1.
The Degree of Mutual Interaction of Logistical Capabilities Affecting Market Outcomes – Direct Influence Matrix

	POK	ZE	ZOD	ZOPC	ZO	ZU	ZW	ZZNT	ZZSR	ZZŁD	ZKK
POK	0	2	2	2	3	2	3	1	3	2	3
ZE	2	0	2	3	3	3	2	2	3	2	2
ZOD	2	2	0	2	2	3	3	2	0	2	2
ZOPC	2	1	2	0	3	3	1	1	2	3	2
ZO	2	2	2	3	0	3	3	2	2	2	1
ZU	3	3	1	2	2	0	2	2	1	2	2
ZW	2	3	3	2	3	2	0	1	1	2	3
ZZNT	2	2	2	2	3	3	2	0	1	2	2
ZZSR	2	3	1	2	2	3	3	2	0	3	2
ZZŁD	3	3	2	2	3	3	3	2	3	0	2
ZKK	3	3	2	2	3	3	3	1	3	3	0

Source: Own elaboration based on the conducted studies.

Experts evaluating the relationships between logistics capabilities and market effects identified 109 relationships among individual capabilities. The conducted analysis revealed 12 instances of no dependency and 12 instances of weak connections. In 56 cases, a moderate level of dependency was observed, while in 41 cases, the relationships were characterized by a strong degree of linkage. The matrix also contains elements equal to zero, located along its diagonals, which intentionally symbolize the lack of dependency between the same logistics capabilities. This means that a given group of logistics capabilities does not exert influence on itself, i.e., it does not affect the same selected group of logistics capabilities.

Structural analysis enabled the determination of the total strengths of direct interactions among individual logistics capabilities, presented in Table 2. The total influence strength reflects the extent to which a given logistics capability impacts others, whereas the total dependency strength indicates the logistics capabilities on which a given capability depends. This assessment is based on the number of paths and loops of a specified length leading to the vertex in the graph representing the respective factor (Nazarko, Wnorowski, Kononiuk, 2011).

The results of the analysis indicated that the logistics capabilities exerting the strongest direct influence are customer focus capabilities, supply chain management capabilities, and flexibility capabilities. Conversely, the logistics capabilities with the least direct influence on other capabilities are learning capabilities, process and activity evaluation capabilities, and supplier evaluation capabilities. Notably, their influence is only slightly lower compared to those capabilities exhibiting the highest levels of impact. The structural analysis also revealed that the logistics capabilities demonstrating the greatest total dependency strength on other capabilities are learning capabilities, organizational capabilities, and collaboration capabilities. This means that these capabilities are the most dependent on other logistics capabilities within the system. In contrast, the capabilities exhibiting the smallest dependency strength, thus lower sensitivity to the influence of other capabilities, are transport reliability capabilities, supplier evaluation capabilities, and speed response capabilities.

Table 2
Total strengths of direct interactions occurring between logistics capabilities influencing market effects in structural analysis

Logistic capabilities affecting market outcomes	Overall strength of influence	Overall strength of dependence
Post-sale customer service	23	23
Flexibility capabilities	24	24
Supplier evaluation capabilities	20	19
Capabilities for process and activity evaluation	20	22
Organizational capabilities	22	27
Learning capabilities	20	28
Collaboration capabilities	22	25
Transport reliability capabilities	21	16
Capabilities ensuring response speed	23	19
Supply chain management capabilities	26	23
Customer focus capabilities	26	21

Source: Own elaboration based on the conducted studies.

The conducted research enabled the creation of a graph illustrating the direct interactions among logistics capabilities affecting market outcomes presented on Figure 1. Very strong dependencies between logistics capabilities, exhibiting highly significant relationships, are marked in red. Strong dependencies are indicated in blue, while dependencies shown in gray represent weak influences between logistics capabilities. Weak relationships between logistics capabilities are denoted by dashed lines.

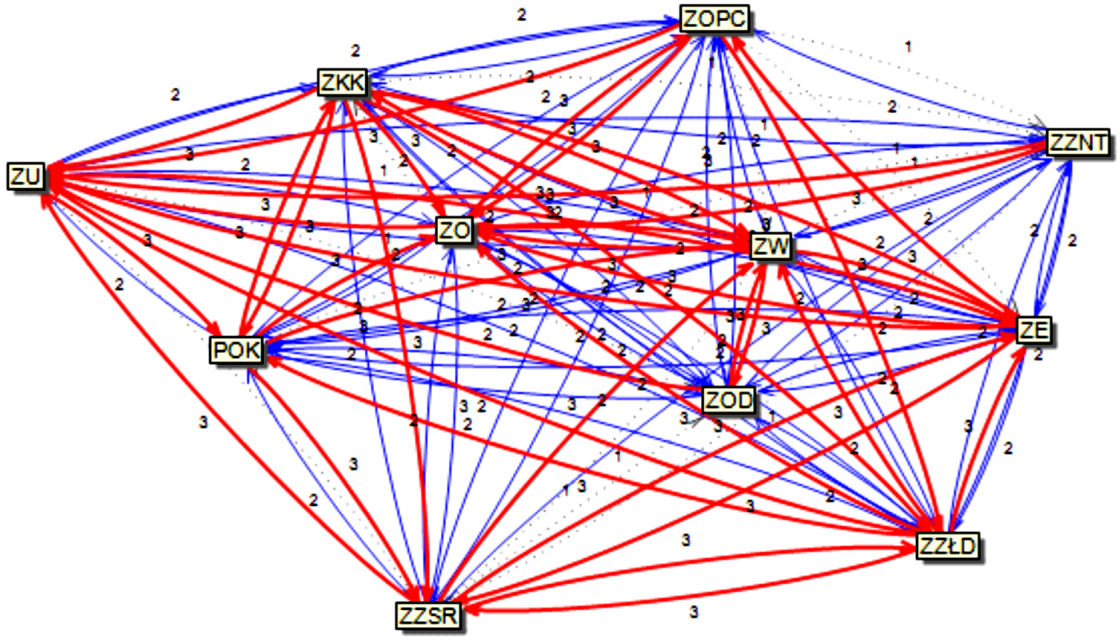

Figure 1. Graph of direct influences between logistic capabilities impacting market effects.
Source: Own elaboration based on the conducted studies.

The graph of direct influences between logistics capabilities demonstrates that there are very strong connections between all the analyzed capabilities, emphasizing their mutual dependence and interaction. Capabilities such as flexibility (ZE), learning (ZU), supply chain management (ZZŁD), ensuring response speed (ZZSR), and customer focus (ZKK) are characterized by the highest number of relationships with very high intensity, indicated in red. Strong connections, marked in blue, are present between all capabilities; however, particularly intense relationships are observed for supplier evaluation (ZOD), ensuring transport reliability (ZZNT), and process and activity evaluation (ZOPC). The least intense relationships involve capabilities related to ensuring transport reliability (ZZNT) in relation to after-sales customer service (POK), process and activity evaluation (ZOPC), collaboration (ZW), customer focus (ZKK), and ensuring response speed (ZZSR). This confirms that the ZZNT group of capabilities exhibits the weakest connections with the remaining logistics capabilities, which may indicate their relative autonomy. In summary, the graph clearly indicates a significant network of mutual dependencies among logistics capabilities influencing market outcomes. The interactions between these capabilities can serve as a foundation for their synergistic utilization, leading to improved business performance and enhanced efficiency of the logistics system.

Structural analysis using the MIC-MAC method also enabled the creation of a distribution of logistics capabilities in terms of influence and dependence. The classification of logistics capabilities affecting market outcomes based on direct influences allowed for the identification of six groups of capabilities: (1) key factors, (2) regulating factors, (3) determining factors, (4) outcome factors, (5) external factors, and (6) autonomous factors.

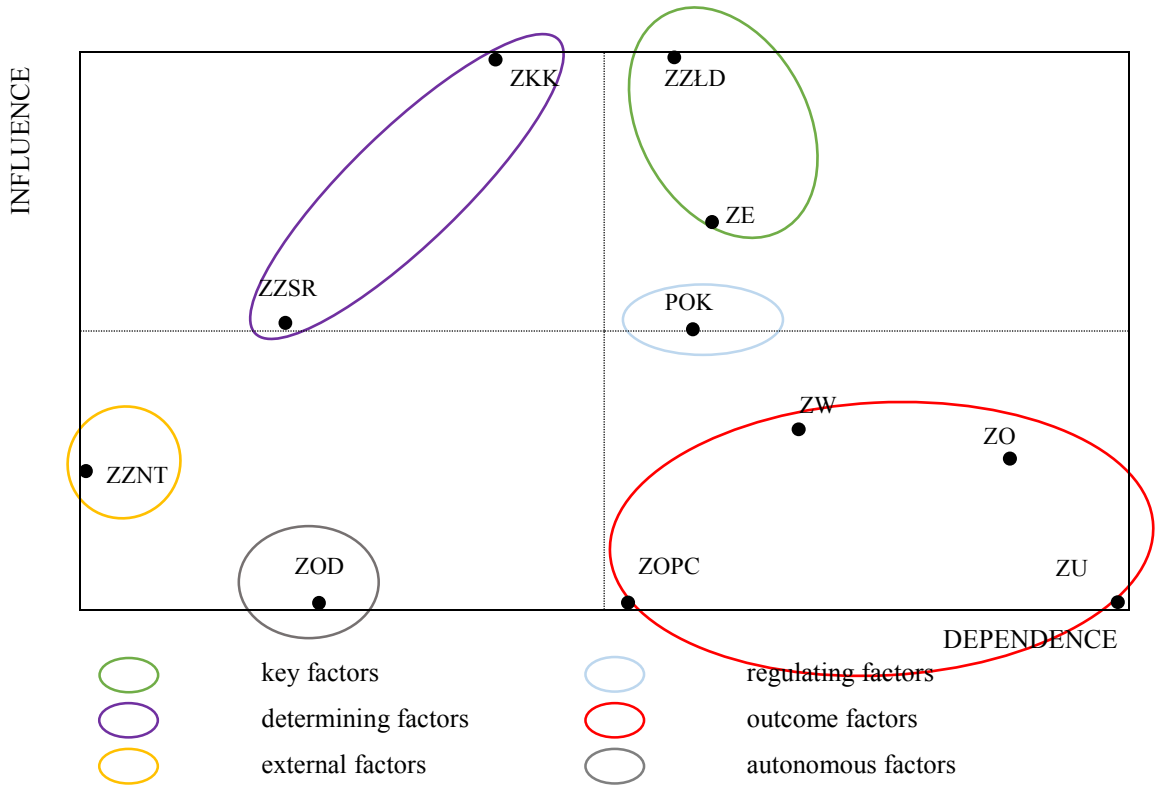

Figure 2. Classification of logistics capabilities influencing market outcomes based on direct interactions.

Source: Own elaboration based on the conducted studies.

Based on the conducted structural analysis, five groups of logistics capabilities can be distinguished, differing in their roles and the nature of mutual dependencies. Key factors include capabilities that combine a strong influence with a high degree of dependence on other capabilities, such as supply chain management (ZZŁD) and flexibility capabilities (ZE). Determining factors are logistics capabilities that exert a strong influence on others while exhibiting relatively low susceptibility to control by other capabilities. This group includes customer focus capabilities (ZKK) and capabilities ensuring response speed (ZZSR). Regulating factors encompass auxiliary capabilities characterized by a low level of influence on other capabilities—in this system, after-sales customer service (POK) plays a significant supporting role despite its limited influence. Outcome factors include capabilities that show minimal impact on others but are significantly dependent on other factors; these include collaboration capabilities (ZW), organizational capabilities (ZO), learning capabilities (ZU), and capabilities for process and activity evaluation (ZOPC). They represent the result of mutual interactions within the logistics system. Finally, the group of external factors consists of

capabilities with minimal influence on others—namely, transport reliability capabilities (ZZNT) and supplier evaluation capabilities (ZOD), which exhibit the least influence on other capabilities, suggesting their relative autonomy or specific role. In summary, the dependency structure among logistics capabilities indicates the need for a differentiated management approach that considers both strong determining and integrating factors, as well as the role of auxiliary, outcome, and external elements. Such an analysis enables more effective targeting of efforts toward the development and optimization of individual components of the logistics system in the context of achieving improved market outcomes.

Within the conducted research, experts also assessed the dependencies among logistics capabilities influencing economic outcomes. Similarly to the logistics capabilities affecting market outcomes, an influence strength matrix was created. In the direct influence matrix, zeros were placed on the diagonal, indicating the absence of influence between the same logistics capabilities. Detailed results showing the degree of mutual interaction among logistics capabilities affecting economic outcomes, according to the direct influence matrix, are presented in Table 3.

Table 3

The Degree of Mutual Interaction of Logistical Capabilities Affecting Economic Outcomes – Direct Influence Matrix

	ZZK	ZZŁD	ZZP	EUD	ZW	ZZNT	ZZSD	ZRRD	ZZD	ZU	ZZI	ZS	ZZR
ZZK	0	3	3	2	3	2	3	2	1	3	3	1	3
ZZŁD	3	0	2	2	3	2	2	3	3	3	3	1	2
ZZP	1	3	0	3	2	2	2	3	3	3	3	1	2
EUD	2	3	2	0	2	2	2	3	3	2	3	1	2
ZW	1	2	1	2	0	1	2	3	3	2	3	2	1
ZZNT	2	2	1	2	2	0	1	2	2	1	3	2	2
ZZSD	2	2	1	2	3	2	0	2	2	1	1	2	1
ZRRD	2	2	3	3	2	2	1	0	2	1	2	1	2
ZZD	2	3	3	3	3	2	2	3	0	3	3	2	2
ZU	2	2	2	2	3	2	3	1	2	0	3	1	2
ZZI	2	2	2	2	3	2	3	3	3	3	0	2	2
ZS	2	1	1	2	2	1	3	1	1	1	2	0	1
ZZR	2	3	3	2	1	1	1	2	1	2	3	1	0

Source: Own elaboration based on the conducted studies.

Based on the assessment conducted by experts regarding the dependencies among logistics capabilities influencing economic outcomes, a total of 109 relationships between these capabilities were identified. The analysis revealed 13 cases of no dependency and 34 cases of weak dependence. Among the remaining relationships, 73 exhibited a moderate degree of connection, while 49 instances showed strong dependencies. Structural analysis also made it possible to determine the cumulative strengths of direct influences among logistics capabilities impacting economic outcomes, which are presented in Table 4.

Table 4
Total strengths of direct interactions occurring between logistics capabilities influencing market effects in structural analysis

Logistic capabilities affecting economic outcomes	Overall strength of influence	Overall strength of dependence
Cost management capabilities	29	23
Supply chain management capabilities	29	28
Demand management capabilities	28	24
Distribution service efficiency	27	27
Collaboration capabilities	23	29
Transport reliability capabilities	22	21
Providing wide distribution coverage	21	25
Capabilities for responding to target markets	23	28
Supply management capabilities	31	26
Learning capabilities	25	25
Information management capabilities	29	32
Standardization capabilities	18	17
Risk management capabilities	22	22

Source: Own elaboration based on the conducted studies.

The analysis indicates that the logistics capabilities with the strongest direct influence on other capabilities are supply management capabilities, information management, cost management capabilities, and supply chain management. In contrast, the capabilities associated with standardization and providing wide distribution coverage exhibit the lowest total influence strength. Regarding dependence strength, information management and collaboration capabilities demonstrate the highest levels of dependence, indicating that these elements are most reliant on other logistics capabilities affecting economic outcomes. In contrast, standardization capabilities constitute the group with the lowest dependence on other capabilities, suggesting their relative autonomy within the logistics system.

Structural analysis using the MIC-MAC program enabled the creation of a graph illustrating strong direct interactions among logistics capabilities affecting economic outcomes, which is presented in Figure 3.

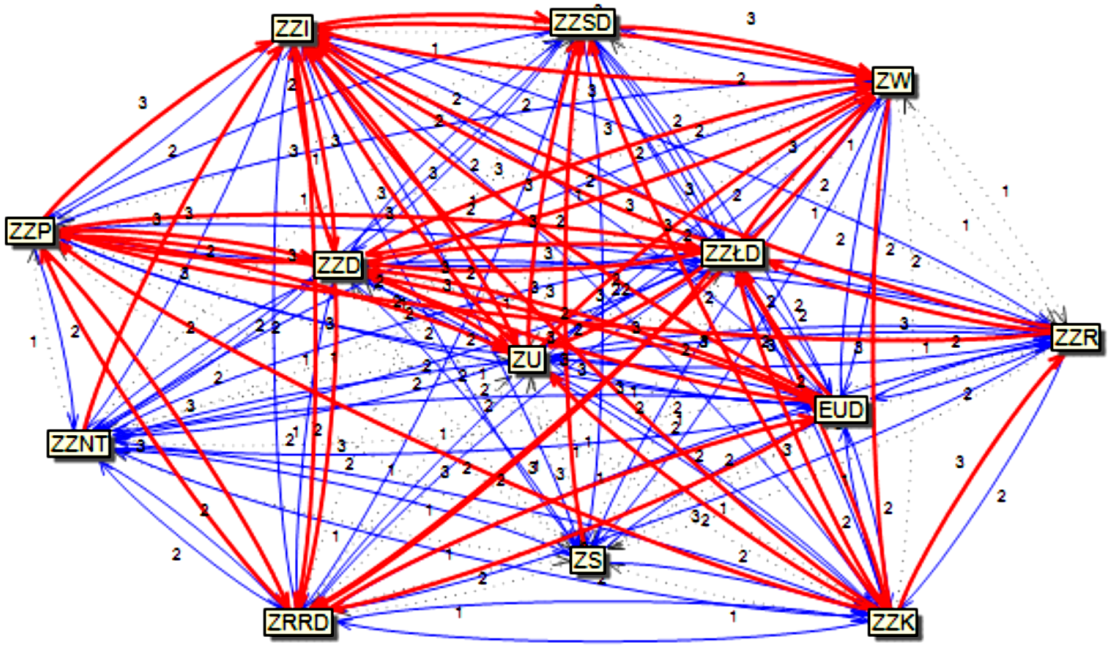

Figure 3. Graph of direct influences between logistic capabilities impacting economic effects.

Source: Own elaboration based on the conducted studies.

The analysis of the direct influence graph revealed that all logistics capabilities impacting the expected economic outcomes exhibit very strong relationships. The capabilities demonstrating the highest number of strong connections with other logistics capabilities are supply management (ZZD), learning capabilities (ZU), supply chain management (ZZŁD), information management (ZZI), capabilities ensuring wide distribution coverage (ZZSD), and demand management (ZZP). Strong dependencies, marked in blue, occur in relation to transport reliability capabilities (ZZNT), risk management capabilities (ZZR), distribution service efficiency (EUD), and capabilities for quick response to target markets (ZRRD). Weak relationships between logistics capabilities, indicated by gray, are associated with learning capabilities (ZU) and standardization capabilities (ZS), which represent the group with the weakest links to other capabilities.

The analysis of the direct influence graph indicates that all logistics capabilities affecting economic outcomes are characterized by very strong or strong interdependencies. This confirms the mutual connections among these capabilities, forming a complex interaction network. Such strong relationships between logistics capabilities can both strengthen and weaken individual competencies within the system, ultimately influencing the achievement of positive economic outcomes by the firm. Therefore, managing and optimizing these interdependencies can be crucial for improving the economic performance of the firm.

Using the MIC-MAC program, logistics capabilities influencing economic outcomes were classified into groups based on the influence-dependence relationship, similarly to the logistics capabilities affecting market outcomes. Based on this, the logistics capabilities were divided into groups analogous to those impacting market outcomes.

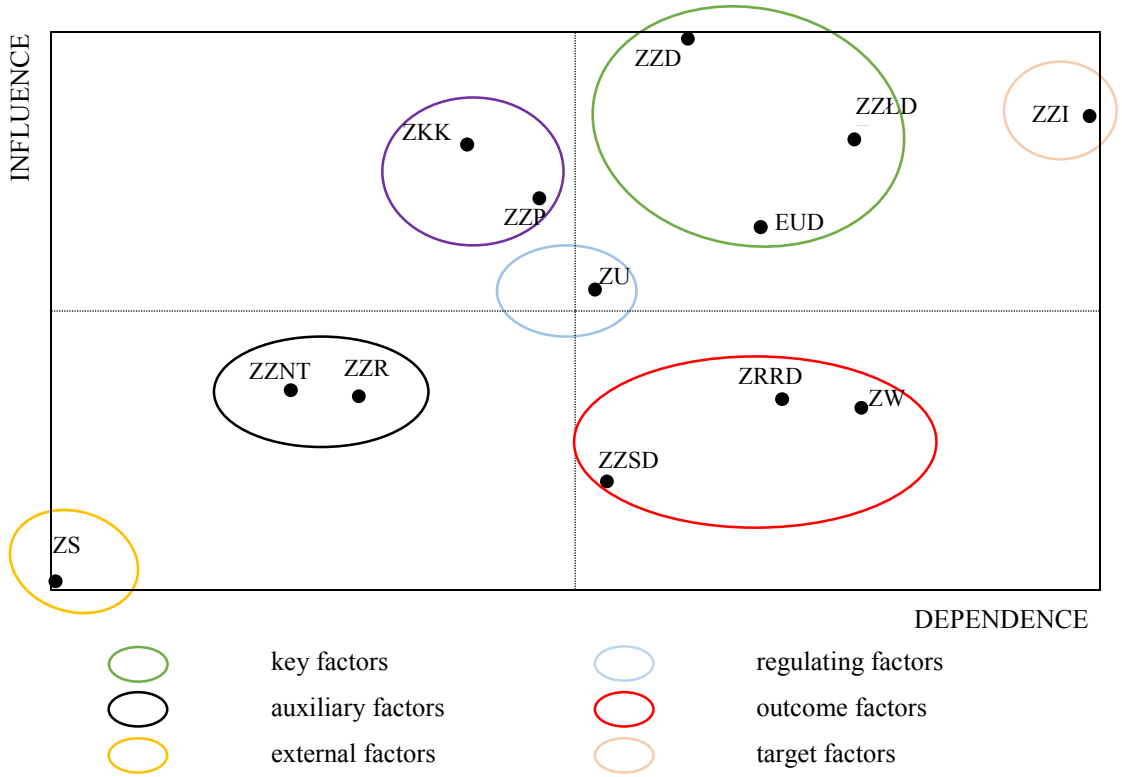

Figure 4. Classification of logistics capabilities influencing economic outcomes based on direct interactions.

Source: Own elaboration based on the conducted studies.

Key factors include supply management capabilities (ZZD), supply chain management capabilities (ZZŁD), and distribution service efficiency (EUD), characterized by both a high degree of influence and dependence on other logistics capabilities. Within the goal factors group are information management capabilities (ZZI), which are more susceptible to influence by other capabilities than exerting influence themselves. Learning capabilities (ZU) are classified as regulating factors, possessing a low level of influence on other logistics capabilities but are important for achieving system objectives. Outcome factors include capabilities ensuring wide distribution coverage (ZZSD), collaboration capabilities (ZW), and capabilities ensuring response to target markets (ZRRD), which have limited impact on other capabilities but remain strongly dependent on their influence. Among the determining factors, acting as drivers of system influence, are demand management capabilities (ZZP) and customer focus capabilities (ZKK). Transport reliability capabilities (ZZNT) and risk management capabilities (ZZR) are classified as auxiliary factors, with moderate or low influence on other capabilities. Finally, the only group of capabilities with low influence classified as external factors comprises standardization capabilities (ZS), which exhibit limited interaction with other elements of the logistics system. This classification allows for a better understanding of the structure of mutual dependencies and indicates opportunities to direct developmental efforts in logistics, considering their role in the system and impact on the economic outcomes of the firm.

5. Summary

Firms continually strive to identify and implement strategies that enable the achievement of success. Within the resource-based view of strategic management, one of the key elements ensuring the success of a firms is its capabilities. Given the significant role of logistics in the functioning of firms, logistic capabilities warrant particular attention. The existing literature devoted to logistic capabilities indicates their substantial contribution to achieving success, nevertheless, a research gap persists concerning the interrelationships among specific logistic capabilities and their influence on the determinants of firms success.

In light of the above, research was conducted to assess the relationships occurring between specific logistic capabilities influencing market and economic outcomes. The study was carried out in two stages—first through expert surveys, and subsequently via structural analysis. In the initial stage, a questionnaire was administered to experts who evaluated the relationships among individual logistic capabilities. The collected data served as the basis for conducting a structural analysis of the relationships between these capabilities. The analysis revealed that the relationships among capabilities affecting economic outcomes exhibit a higher density compared to those among capabilities influencing market outcomes. This pattern of dependencies between logistic capabilities suggests a close interconnection between these groups of capabilities and indicates the need for a holistic approach to their development—considering the simultaneous cultivation of various groups of logistic capabilities rather than focusing solely on isolated aspects.

It should be noted that the conducted analysis concerned manufacturing firms, which limits the possibility of directly transferring the obtained results to other economic sectors. Differences arising from the specificity of production processes, distinct organizational structures, and varied material and immaterial resources indicate the necessity for further research on the adaptation of the proposed solutions in other industries. Moreover, logistic capabilities are characterized by the fact that they are developed internally within the firm and cannot be directly acquired from external sources, which means each firm possesses a unique set of capabilities contextually adapted to its own conditions and potential. This specificity restricts the universality of the presented analyses and underscores the importance of continuing research in the field of logistic capabilities.

The specific nature of a firm's capabilities, which cannot be acquired externally but must be developed internally, gives each entity unique potential. This limits the universality of the conducted research, while opening space for individual adaptation. For firms with limited resources, a privileged implementation path is recommended, consisting of the staged adaptation of the presented research results. It begins with the identification of logistic capabilities, proceeds through the assessment of relationships between them, and culminates in the monitoring of market and economic outcomes. Furthermore, the unique potential of each

firm's logistic capabilities underscores the necessity of individual adaptation; therefore, for entities with limited resources, a priority focus is proposed on key logistic capabilities constituting the firm's success factors, which lead to the distinguishing markers of success, namely market and economic outcomes.

In light of the above limitations, future research should focus on the identification and validation of sets of logistic capabilities in diverse types of firms, as well as on their practical application under real market conditions, which will enable the assessment of their effectiveness. Particular attention should be devoted to in-depth empirical studies concentrating on logistic capabilities that significantly influence the market and economic outcomes of firms, taking into account the sectoral aspect. It is especially important to verify and potentially expand the catalogue of logistic capabilities in firms operating in the service and trade sectors, where the characteristics of logistic processes differ from those in manufacturing firms.

References

1. Blaik, P. (2008). *Logistyczne potencjały efektów i tworzenia wartości dodanej*. In: P. Blaik, (Ed.), *Logistyczny łańcuch tworzenia wartości*. Opole: Wydawnictwo Uniwersytetu Opolskiego.
2. Ejdys, J. (2013). R*egionalny foresight gospodarczy. Scenariusze rozwoju lokalnego województwa mazowieckiego*. Warszawa: Związek Pracodawców Warszawy i Mazowsza.
3. Fernandes, D.W., Moori, R.G., Filho, V.A.V. (2018). Logistic service quality as a mediator between logistics capabilities and customer satisfaction. *Revista de Gestão*, *Vol. 25, No. 4,* pp. 358-372, doi: https://doi.org/10.1108/REGE-01-2018-0015
4. Gälweiler, A. (1987). *Strategische Unternehmensführung*. Frankfurt am Main/New York: Campus Verlag.
5. Gligor, D.M., Holcomb, M. (2014). The road to supply chain agility: An RBV perspective on the role of logistics capabilities. *The International Journal of Logistics Management*, *Vol. 25, No. 1,* pp. 160-179, doi:10.1108/IJLM-07-2012-0062
6. Gligor, D.M., Holcomb, M.C. (2012). Understanding the role of logistics capabilities in achieving supply chain agility: A systematic literature review. *Supply Chain Management: An International Journal*, *Vol. 17, No. 4*, pp. 438-453, doi: 10.1108/13598541211246594
7. Göpfert, I. (2000). *Logistik Führungskonzeption, Gegenstand, Aufgaben und Instrumente des Logistik-Managements und Controllings*. München: Verlag Franz Vahlen.
8. Hofer, A.R., Jin, Y.H., Knemeyer, A.M. (2021). Environmental uncertainty and cross-buying in logistics outsourcing arrangements: A resource dependence perspective. *International Journal of Physical Distribution & Logistics Management*, *Vol. 51, No. 3,* pp. 2-44, doi: 10.1108/IJPDLM-04-2019-0121

9. Littler, D., Leverick, F., Wilson, D. (1993). Collaboration in new technology – based product markets. *Technology Analysis and Strategic Management*, *Vol. 5, No. 3,* pp. 139-159, doi: https://doi.org/10.1504/IJTM.1998.002600
10. Mathien, L.D. (2020). Empirical Application of Production Competence Theory to Logistics Outsourcing. *Academy of Business Research Journal*, *Vol. 2,* pp. 7-29. Retrieved from: https://www.proquest.com/docview/2472179961?pq-origsite=gscholar&fromopenview=true&sourcetype=Scholarly%20Journals
11. Matwiejczuk, R. (2014). *Kompetencje logistyki w tworzeniu przewagi konkurencyjnej przedsiębiorstwa*. Opole: Wydawnictwo Uniwersytetu Opolskiego.
12. Mentzer, J.T., Min, S., Bobbitt, L.M. (2004). Toward a unified theory of logistics. *International Journal of Physical Distribution & Logistics Management*, *Vol. 34, No. 8,* pp. 606-627, doi: 10.1108/09600030410557758
13. Nazarko, J., Wnorowski, H., Kononiuk, A. (Ed.) (2011). *Analiza strukturalna czynników rozwoju nanotechnologii w województwie podlaskim*. Białystok: Oficyna Wydawnicza Politechniki Białostockiej.
14. Olavarrieta, S., Ellinger, A.E. (1997). Resource based theory and strategic logistics research. *International Journal of Physical Distribution and Logistics Management*, *Vol. 27*, pp. 559-587, doi: 10.1108/09600039710188594
15. Paszenda, I. (2017). Sukces w życiu codziennym. In: M. Humeniuk, I. Paszenda, W. Żłobicki, (Ed.) *Sukces jako zjawisko edukacyjne* (pp. 25-40). Wrocław: Instytut Pedagogiki Uniwersytetu Wrocławskiego.
16. Pfohl, H. (1994). *Logistikmanagement*. Berlin/Heidelberg: Springer.
17. Pümpin, C. (1986). *Management Strategischer Erfolgspositionen*. Bern/Stuttgart: Verlag Paul Haupt.
18. Sennheiser, A., Schnetzler, M. (2008). *Wertorientiertes Supply Chain Management*. Berlin/Heidelberg/New York: Springer Verlag.
19. Wójcicki, J.M., Ładyżyński, P. (Ed.) (2008). *System monitorowania i scenariusze rozwoju technologii medycznych w Polsce*. Warszawa: Konsorcjum ROTMED.

Appendix

Table 1.
List of logistical capacities with acronyms

Acronym	Name of logistic capabilities
ZSRR	Capabilities ensuring response speed
ZOPC	Capabilities for process and activity evaluation
ZRRD	Capabilities for responding to target markets
ZW	Collaboration capabilities
ZZK	Cost management capabilities
ZKK	Customer focus capabilities
ZZP	Demand management capabilities
EUD	Distribution service efficiency
ZE	Flexibility capabilities
ZZI	Information management capabilities
ZU	Learning capabilities
ZO	Organizational capabilities
POK	Post-sale customer service
ZZSD	Providing wide distribution coverage
ZZR	Risk management capabilities
ZS	Standardization capabilities
ZOD	Supplier evaluation capabilities
ZZŁD	Supply chain management capabilities
ZZD	Supply management capabilities
ZZNT	Transport reliability capabilities

Source: Own elaboration based on the conducted studies.