

THE CLASSIFICATION OF THE CAPABILITIES OF THE FIRM

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Purpose: The aim of this article is to present an identification of the premises for the classification of firm capabilities and to show the types of firm capability classification found in the literature.

Design/methodology/approach: The classification of capability groups presented in this article is based on the literature review conducted.

Findings: Standard classification of a firm's capabilities, in addition to structuring existing knowledge in the area of capabilities, can provide a starting point for identifying the firm's key capabilities leading to competitive advantage.

Practical implications: Identifying a firm's capabilities is one of the key steps in creating and leveraging capabilities. The correct classification of a firm's capabilities can become a tool to help identify and then properly exploit them.

Originality/value The literature describes the issue of firm capabilities, pointing to a variety of definitions, sources of origin, as well as the effects achieved through the use of capabilities, but does not show a standard classification of capabilities. The classification of firm capabilities provides a starting point for further research on firm capabilities for management researchers as well as firms seeking to achieve competitive advantage.

Keywords: capabilities, classification of capabilities.

Category of the paper: Conceptual paper.

1. Introduction

A firm's capabilities, rooted in the resource stream of strategic management, are an essential element in the functioning of a firm, leading to the achievement of the firm's aims. The resource stream assigns the capabilities and resources of the firm, which form the basis of capability development, a special role in achieving competitive advantage. However, in order for an firm to be able to create and develop individual capabilities leading to competitive advantage, it is necessary to identify the types of capabilities created within a given firm, as well as where they originate in the organisational structure.

The capabilities of an firm are an issue that can be considered in many approaches, depending on the research approach adopted. The literature provides many definitions of firm's capabilities, as well as pointing to the effects that a firm can achieve by developing capabilities. However, previous research on the subject of capabilities does not exhaust the issue of capability classification.

The aim of this article is to present the premises for the classification of firm capabilities and to show the types of firm's capabilities found in the literature. The development of a standard classification of an firm's capabilities, which would encompass the existing research on capabilities, would not only allow for the systematization of the knowledge possessed in the area of capabilities, but may also provide a starting point for further consideration of an firm's capabilities, in particular the identification of capabilities leading to the achievement of competitive advantage.

2. The nature of firm's capabilities

In the 1990s, the assumptions of the resource school, according to which an firm should focus on the possession and development of resources and capabilities in order to achieve competitive advantage, became widespread in the strategic management stream. Every firm operating in the economic space possesses a certain set of resources, ensuring both the fulfilment of the firm's basic functions, as well as contributing to a certain extent to the achievement of the firm's intended objectives. Firms striving to achieve competitive advantage, based on the use of resources, with reference to the assumptions of the resource school, should focus their tasks on the collection and use of resources that have VRIN characteristics. The term VRIN (valuable, rare, inimitable, non-substitutable) introduced by J.B. Barney (1991) refers to four resources characteristics that contribute to competitive advantage. Based on the cited characteristics, firms should focus on accumulating and exploiting resources that are unique, have no substitutes and are difficult for competitors to acquire and imitate.

However, an firms based on the use of resources should not only have a range of resources, but, above all, be able to use them properly so as to achieve the greatest possible benefit. One of the ways in which resources can be used effectively is through the capabilities of the firm. The term firm capabilities, now widely described by researchers, was first used in the literature by I.H. Ansoff (see 1965). The very issue of capabilities, despite many studies, is often equated with competences or possibilities, which can lead to an incorrect interpretation of the essence of capabilities. An firm's competencies are a set of capabilities created as a result of the integration of capabilities related to the processes implemented in the firm and the resources used in these processes (Matwiejczuk, 2011). Also inextricably linked to the notion of firm capabilities and competencies is the notion of firm potentials, which are the sum of

an firm's resources, capabilities and competencies (Matwiejczuk, 2011). Capabilities are also not synonymous with skills, it is the capabilities of the firm that constitute the set of skills and knowledge indicating the effective use of resources (Morash, Droge, Vickery, 1996). The capabilities of an firm should be equated with the repetitive activities or processes involved in the use of resources, while the terms capabilities, competencies and skills are concepts that should not be used interchangeably when referring to firms.

An important aspect of firm capabilities found in the literature that influences the identification and subsequent classification of capabilities is the perception of capabilities as specific resources or processes. These two directions in the understanding of capabilities derive from the two research streams that initiated the study of firm capabilities. The first approach represented by D.J. Teece (1984), who sees the origins of the emergence and development of an firm's capabilities in organisational routines, understood as patterns of behavior, based on the firm's experience in a particular area. D.J. Teece, referring to the resource approach, considers the firm's capabilities as a certain type of resource, enabling the firm to fulfil its current tasks of increasing competitiveness and development and responding to changes occurring on the market.

The second research strand represented by the team of K.M. Eisenhardt and J.A. Martin (2000) considers corporate capabilities as processes that integrate, reconfigure, acquire and release resources in order to adapt to market changes. The cited authors point to the existence of research and development teams, product creation processes, knowledge transfer and rules for controlling and measuring performance as the source of the emergence of capabilities.

The two approaches indicated, despite their different perspectives on the issue of capabilities, are not mutually exclusive and point to the main objective of capabilities, which is the utilization of resources. A firm's capabilities, whether viewed as a specific type of resource or as a process, aim to acquire, integrate and modify resources so that they lead to the desired outcomes. Examples of capabilities outcomes include: (1) responding dynamically and effectively to changes in the environment, (2) holistic management of the firm and its relations with the environment, (3) achieving a certain level of efficiency in the market and economic dimension, and (4) managing the firm's relations with market participants (Matwiejczuk, 2019). However, irrespective of the specific objective pursued, capabilities should first and foremost lead to improved efficiency in the use of the firm's resources.

3. Identifying the premises for classifying a firm's capabilities

Capabilities are undoubtedly an important part of the functioning of a firm, and their creation and development can guarantee the firm a number of benefits that can contribute to competitive advantage. The firm's capabilities are an issue widely described in the literature, both domestic and foreign. The large number of scientific articles in this area shows that, although corporate capabilities are not an entirely new issue, they are still an interesting research topic. The literature has largely focused on the issue of dynamic capabilities, i.e. one of the types of capabilities used under specific environmental conditions. The focus of researchers on this particular type of capabilities has its determinants in changing market conditions and the need for firms to adapt quickly to emerging changes. In the existing publications, the authors present a number of arguments pointing to the great importance of dynamic capabilities in achieving intended aims, as well as presenting a definitional account of dynamic capabilities or their genesis related to the resource approach. There are also publications indicating the existence of other types of capabilities, but there are far fewer works on this topic, which mainly focus on specific capabilities in a functional perspective.

Despite the wide range of literature in the area of firm capabilities, an issue that remains unsystematic is the classification of capabilities. The current divisions of firm capabilities, based on both differentiated and identical division criteria, introduce some discrepancies that mean that no standard classification of firm capabilities has so far emerged. Such a wide variation in the division of capabilities, especially on the basis of the same characteristics, introduces misunderstanding, especially among people and actors who are not familiar with the subject of firm capabilities, as exemplified by dynamic capabilities. So far, despite many studies explaining the essence of capabilities, it has not been possible to develop a universal definition of dynamic capabilities. Therefore, the development of a uniform classification of firm capabilities, would make it possible to systematize the existing knowledge on firm capabilities, while introducing a standard characterization of capabilities, which would also facilitate the standardization of concepts describing capabilities. Uniformity of definition would not only allow for an understanding of the nature of capabilities, but also facilitate the use of capabilities in the achievement of the firm's objectives.

The classification of firm's capabilities, in addition to introducing some systematization to the current knowledge in the field, can provide a starting point for further research on firm capabilities. Capabilities are elements of a firm that are not subject to purchase and sale transactions. Capabilities arise only as a result of the activities developed in the firm. Capabilities cannot be acquired through purchase or borrowed from competitors. Because of this characteristic of capabilities, it is so important where in the organisational structure the capability originates and can be developed. The classification of a firm's capabilities will allow the firm to identify the basic types of capabilities that can be created and the organisational units that should be responsible for creating a particular type of capabilities.

All firms operating in the market conduct their activities for a specific purpose, often the purpose of which is to achieve competitive advantage. According to the aforementioned assumptions of strategic management, including the resource school, this is possible through the use of resources and capabilities. However, in order for a firm to use its capabilities to gain a competitive advantage, it must first identify or create its capabilities and then develop them. A firm's capabilities classification can be a tool for a firm to identify the capabilities it has or the capabilities it needs to develop. On the basis of a capabilities classification, a firm can analyse not only the capabilities it has internally, but also the capabilities needed to function effectively in specific market conditions. The classification of capabilities can form the basis for the development of a firm's capabilities, on the basis of which a specific firm is able to develop a distinctive group of capabilities that are useful in achieving its objectives as well as achieving competitive advantage.

4. Overview of the firm's capability classification

As already mentioned, the literature describes the issue of capabilities in broad terms. Based on a review of the existing literature in the area of firm capabilities, a set of classifications of firm capabilities was developed consisting of three main divisions, which are presented in Figure.1.

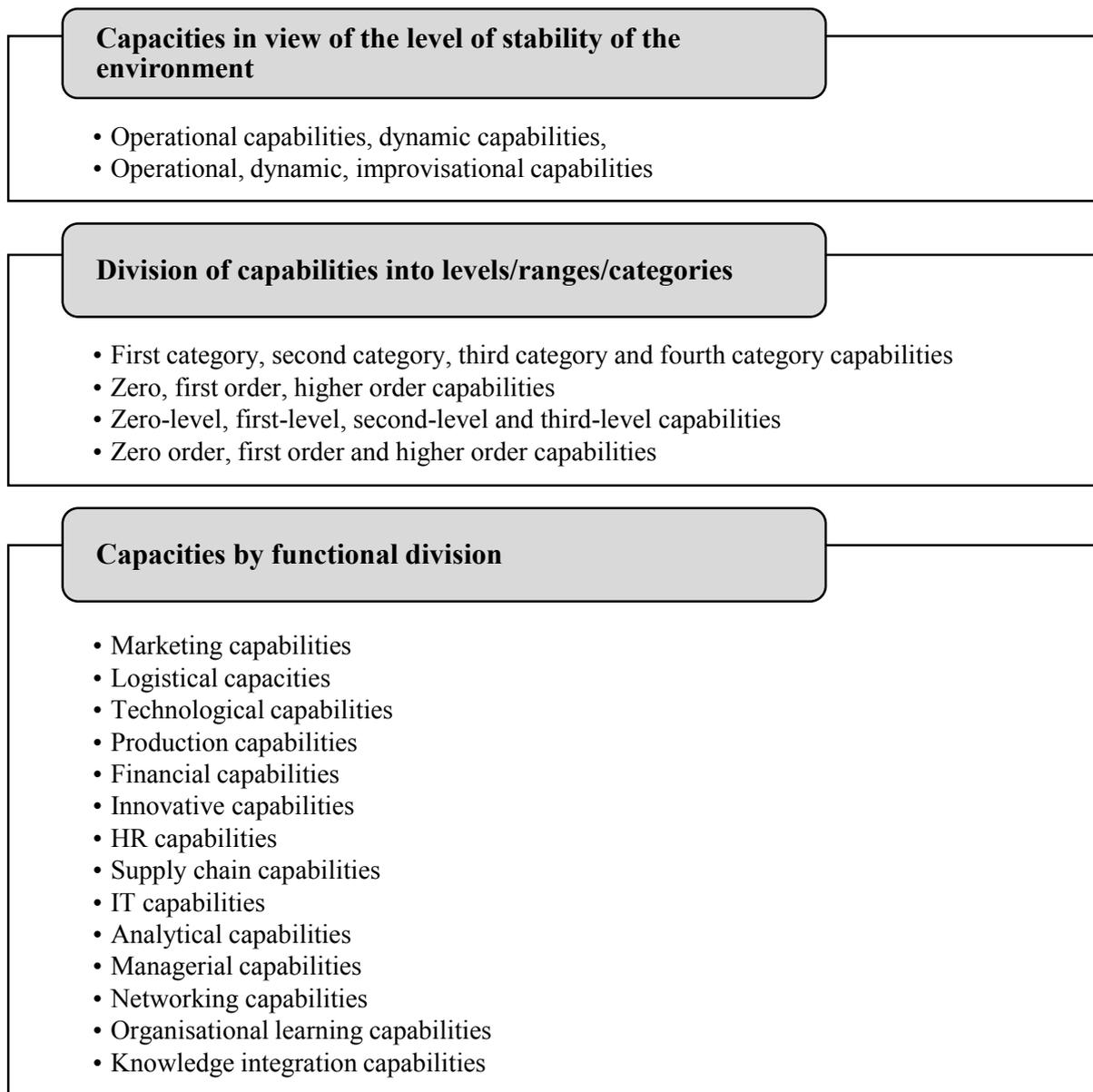


Figure 1. A breakdown of the firm's capabilities.

Adapted form: Own study.

All firms are operating in a certain environment, which is characterized by a certain level of variability. D.J. Teece, creator of the Dynamic Capabilities Concept (DCC), in his research on firm capabilities, divided capabilities into two main groups, namely operational capabilities and dynamic capabilities. The division of capabilities introduced was based on the conditions of the environment in which firms operate and, more specifically, its stability or volatility. In the author's opinion, the division of capabilities into two groups is sufficient, as the new types of capabilities will only form part of the dynamic capabilities (Teece, 2012).

Operational capabilities are related to stable activities based on organisational routines, with the aim of achieving the core tasks of the firm, while dynamic capabilities change according to market situations. Operational capabilities, which are standard activities, are stable in nature and rooted in organisational routines. Operational capabilities consist of both internal

and external processes related to the core, day-to-day activities of the firm. Although operational capabilities are a set of repeatable activities, the effect of implementing these capabilities does not always lead to identical results. The effect of capability utilization depends on the starting point as well as the path taken, which depends on the genesis of the firm, the organisational structure and the way the processes are implemented (Teece, 2012).

The dynamism of dynamic capabilities, to which the name capabilities is attributed, refers to the ability to react quickly to changes in the environment. The primary objective of dynamic capabilities is to adapt quickly to emerging new situations, which leads to increased flexibility and innovation for the firm. In defining the characteristics of dynamic capabilities, it is also worth pointing out the three types of capabilities that make up dynamic capabilities, more specifically: (1) identifying and assessing opportunities (sensing), (2) mobilizing resources (seizing) and (3) updating standard capabilities (transforming). Opportunity identification and assessment is related to the analysis of opportunities and threats arising from the environment, in particular to meet customer needs. The second component capabilities of resource mobilization relates to designing, selecting and acting on the firm's resources. In contrast, updating standard capabilities is based on modifying existing resources and capabilities used by the firm (Teece, 2012).

Based on the work of D.J. Teece, a team comprising P.A. Pavlou and O.A. El Sawy (2010) developed a division of capabilities into three groups - operational capabilities, dynamic capabilities and improvisational capabilities, taking into account the level of stability of the firm's environment as a criterion for the division. According to the above authors, operational capabilities are zero-level capabilities used in a stable environment. Dynamic capabilities represent capabilities used in a low-volatility environment, while in a turbulent environment, a firm should focus on creating and developing improvisational capabilities. The understanding of operational and dynamic capabilities is largely the same as the work of D.J. Teece, while a different type of capabilities here is improvisational capabilities, which should be considered as spontaneous and innovative activities undertaken to respond quickly to sudden market situations (Vera, Nemanich, Velez-Castrillon, Werner, 2016). Based on the aforementioned division, it should be concluded that, depending on the stability of the environment, the firm should concert its efforts on developing operational, dynamic or improvisational capabilities, as this specific type of capability will ensure that the firm achieves its specific objectives. However, regardless of the conditions of the environment, the firm should not focus its attention solely on developing one type of capability, as it can achieve the greatest results by integrating capabilities. Lower-level capabilities, i.e. capabilities of the environment with less variability, form the basis for the development of capabilities at higher levels. According to this assumption, operational capabilities related to the implementation of the core functions of the firm, are the basis for the development of dynamic capabilities, while dynamic capabilities can contribute to the formation of improvisational capabilities. Only the integration of capabilities can contribute to the achievement of the firm's objectives.

A second classification groups of capabilities found in the literature is that based on levels, orders and categories. This classification, despite the different authors and names of the different ability groups, is based on similar assumptions, distinguishing abilities in a hierarchical system. The first division of capabilities is that proposed by D.J. Collins (1994), who indicated the occurrence of capabilities in view of categories, introducing four categories of firm's capabilities. First category consists of capabilities used to perform the core functions of the firm. In second category, D.J. Collins included dynamic capabilities that improve the performance of the firm. Third category comprises capabilities with similar characteristics to dynamic capabilities, but focused on creating a new strategy for the firm. In the last category, the author included all capabilities that influence the capabilities belonging to the other categories.

Based on the experience of D.J. Collins, his own classification was presented by S.G. Winters (2003), introducing the division of the firm's capabilities into three levels, namely: (1) zero-level capabilities, (2) first-order capabilities and (3) higher-order capabilities. Zero-level capabilities are core capabilities, concerned with the day-to-day operations of the firm, performing the core functions of the firm. Dynamic capabilities focused on resource modification, have been assigned to first-order capabilities. S.G. Winters included all dynamic capabilities interacting with first-order capabilities in the last group, higher-order capabilities.

Another classification of capabilities worth citing is the division of capabilities into four levels developed by C.L. Wang and P.K. Ahmed (2007). The authors presented a hierarchy of a firm's capabilities, indicating the existence of a zero-order level, which consists of a firm's resources with VRIN characteristics. The authors argue that this assignment of a resource as a capability is related to the fact that it is the resource that forms the basis for the emergence and development of a firm's capabilities. The first-order are the first-order capabilities that contribute to improved performance where the firm has the ability to deploy resources. The second-order are core capabilities, which represent a set of resources and capabilities, most leading to competitive advantage. The last group of capabilities are those related to the creation, renewal and modification of the firm's resources and capabilities, which should be categorized in the third-order.

Building on previous research work by S.G. Winters and C.L. Wang and P.K. Ahmed, in the area of capabilities, a group of researchers consisting of H. Ma, C. Lang, Q. Sun and D. Singh (2021) presented their own division of the firm's capabilities by taking environmental conditions and the level of capabilities as the criterion for division. The authors presented capabilities at three levels depending on the environment condition, assigning them the characteristics of operational, dynamic and improvisational capabilities. Zero-order capabilities are those used in a stable environment, in which case they are referred to as operational capabilities. Dynamic capabilities, are first-order capabilities, developed in a changing environment. The high-order comprises improvisational capabilities, developed in a turbulent environment.

The cited classifications of firm capabilities have two key features in common, the division of capabilities according to the conditions of the environment and the purpose of the existence of a given group of capabilities. At the lowest level in the capability system are the capabilities used in a stable environment, corresponding to operational capabilities. At the middle level, we can distinguish the existence of dynamic capabilities, used in a volatile environment, while at the highest level, we should place improvisational capabilities, used in a highly volatile, turbulent environment. The second common element, the purpose of capabilities, also varies from level to level. Capabilities at the lowest level focus on the efficient use of resources. Mid-level capabilities modify resources to improve efficiency, while top-level capabilities modify lower-level capabilities. A summary of the cited capability classifications is presented in Table 1.

Table 1.
Division of capabilities by levels, orders and categories

First category, second category, third category and fourth category capabilities	Zero order, first order, higher order capabilities	Zero, first-, second- and third-level capabilities	Zero order, first order and higher order capabilities
First category: capabilities related to the core business of the firm.	Zero order capabilities: used in a stable environment, operational capabilities.	Zero-order capabilities: firm resources.	Zero-level capabilities: capabilities related to current activities.
Second category: dynamic capabilities that improve the firm's tasks.	First order capabilities: dynamic capabilities.	First-order capabilities: lead to efficiency gains.	First-level capabilities: dynamic capabilities that change resources.
Third category: based on a broader view of the firm, in the context of creating a new strategy and determining the value of resources.	Higher level capabilities: used in a highly turbulent environment, improvisational capabilities.	Second-order capabilities: a collection of resources and capabilities.	Higher-order capabilities: dynamic capabilities that affect first-order capabilities.
Fourth category: higher-level capabilities interacting with lower-level capabilities.		Third-order capabilities: renew, reconfigure and reuse resources and capabilities.	

Adapted from: Collis, D.J.(1994). How valuable are organisational capabilities?, *Strategic Management Journal*, nr 15(2), s. 143–152; Winters, S.G. (2003). Understanding dynamic capabilities, *Strategic Management Journal*, nr 24(10), s.991–995; Ma, H., Lang, C., Sun, Q., Singh, D. (2021). Capability development in startup and mature firms, *Management Decision*, vol. 59(6), s.1442-1461.

Based on the divisions of firm capabilities presented, it is also possible to see a significant influence of the individual classifications on the research of other authors. This simultaneous duplication of assumptions and introduction of our own, indicates a great diversity in the understanding of firm capabilities, indicating at the same time the need to standardize certain issues related to firm capabilities and the need for further research in this area.

Every firm carries out a number of diverse as well as standardized processes related to its activities. In view of the functions performed by the firm, a distinction can be made between the capabilities of the firm in functional terms. This division of capacities introduces capacities that arise as a result of the implementation of the firm's processes, such as marketing capacities, logistical capacities or financial capacities. A given type of capability in terms of function is related to the use of a given resource associated with the implementation of a specific firm process. Due to the wide variety of activities carried out by firms, creating a standard list of functional capabilities is still a challenge. Since capabilities are not acquired, but only created in the firm, each firm can create its own set of functional capabilities related to the activities performed in the firm. An important point about the division of capabilities in functional terms is that capabilities can take the form of both operational, dynamic and improvisational capabilities, depending on the conditions of the environment in which the firm operates. Operational capabilities in functional terms will be a set of the underlying activities of the firm, in the context of a given resource used in a functional process, in order to fulfil the core tasks of the firm. In contrast, individual functional capabilities in dynamic or improvisational terms will be those capabilities associated with the execution of a process, in order for the firm to adapt to changing environmental conditions. On this basis, an firm can create, for example, both operational marketing capabilities and dynamic marketing capabilities, and analogously the other types of functional capabilities in operational, dynamic and improvisational terms. Integrating capabilities and considering capabilities both from a functional perspective and in relation to the environment allows the firm to more accurately characterize the capabilities required to perform particular tasks.

5. Conclusions and directions for further research

Derived from the resource school, firm capabilities are an element of the firm that contributes to the achievement of multiple objectives by the firm, leading to competitive advantage. The identification of the firm's capabilities is one of the key stages in the creation and utilization of capabilities. The correct classification of an firm's capabilities can become a tool to help identify and then properly exploit them.

Firm capabilities are a characteristic issue in the context of strategic management, which are characterized by considerable diversity. Such a wide variety of firm capabilities is the result of a fundamental characteristic of capabilities, namely the fact that capabilities cannot be acquired, but only developed in a specific firm. Capabilities are the resultant of the activities and processes taking place within a firm, as well as the conditions of the environment in which the firm operates. Therefore, each firm with specific resources may develop a different capability from a competing firm with the same resources. A consequence of the specificity of

capabilities is the difficulty of creating a standard classification of capabilities, which is still a challenge. The classic division of capabilities in terms of the variability of the environment, i.e. the division into operational and dynamic capabilities, will be the case in every firm, as every firm operates in an environment and it is impossible to detach a firm from its environment. The functional division of capabilities, on the other hand, can take different forms, given the firms in which the capabilities arise.

A standard classification of a firm's capabilities, in addition to systematizing existing knowledge in the area of capabilities, can provide a starting point for identifying the firm's key capabilities leading to competitive advantage. The classification of capability groups presented in this article is based on the literature review carried out, while it does not represent a definitive form. It will change as the issue develops and as further work is done on firm capabilities. In addition, a standard, one-size-fits-all classification of capabilities will probably never take a definitive shape and may exist indicating only individual capability groups rather than individual, specific capabilities belonging to a given set. Capabilities are used to outperform competitors using the same resources, so as the market develops, firms will continue to create new capabilities, used to adapt to new emerging situations in a given market. However, whatever the direction of the capability issue in terms of the distribution and types of capabilities, it is undoubtedly an issue that should be directions for further research. This research should focus on the identification of new groups of capabilities leading to the achievement of a given aim, which may be the starting point for the identification of specific capabilities leading to selected aims that can translate into competitive advantage.

References

1. Aldianto, L., Anggadwita, G., Permatasari, A., Mirzanti, I.R., Williamson, I.O. (2021). *Toward a Business Resilience Framework for Startups, Sustainability*, 13(6).
2. Ansoff, I.H. (1965). *Corporate Strategy: An Analytic Approach to Business Policy for Growth and Expansion*. New York: McGraw-Hill.
3. Barney, J.B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, vol. 17(1).
4. Collis, D.J. (1994). How valuable are organisational capabilities? *Strategic Management Journal*, 15(2).
5. Eisenhardt, K.M., Martin, J.M. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, no. 21.
6. Li, Y., Wang, X.(2022). A Study on the Correlations among Organisational Learning, Dynamic Capabilities, and Innovation Performance of Innovative Firms. *School of Economics and Management*.

7. Ma, H., Lang, C., Sun, Q., Singh, D. (2021). Capability development in startup and mature firms. *Management Decision*, vol. 59(6).
8. Matwiejczuk, R. (2011). Zasoby oraz zdolności i kompetencje przedsiębiorstwa w tworzeniu przewagi konkurencyjnej. *Przegląd Organizacji*.
9. Matwiejczuk, R. (2019). Koncepcja dynamicznych zdolności w budowaniu konkurencyjności łańcucha dostaw. *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach*, nr 381(18).
10. Morash, E.A., Droge C.L.M, Vickery S.K. (1996). Strategic logistics capabilities for competitive advantage and firm success. *Journal of Business Logistics*, 17(1).
11. Pavlou, P.A., El Sawy, O.A.(2010). The ‘Third Hand: IT-enabled competitive advantage turbulence through improvisational capabilities. *Information Systems Research*, vol. 21(3).
12. Teece, D. J. (2012). Dynamic Capabilities: Routines versus Entrepreneurial Action. *Journal of Management Studies*, vol. 49(8).
13. Teece, D.J. (1984). Economic analysis and strategic management. *California Management Review*.
14. Vera, D., Nemanich, L., Velez-Castrillon, S., Werner, S.(2016). Knowledge-based and contextual factors associated with R&D teams’ improvisation. *Journal of Management*, vol. 42(7).
15. Wang, C.L., Ahmed, P.K. (2007). Dynamic Capabilities: A review and research agenda. *International Journal of Management Reviews*, vol. 9(1).
16. Winters, S.G. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, vol. 24(10).
17. Wu, S.J., Melnyk, S.A., Flynn, B.B. (2010). Operational Capabilities: The Secret Ingredient. *Decision Sciences*, vol. 41(4).