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FROM DYNAMIC CAPABILITIES TOWARDS ADAPTABILITY COMPETENCE

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Purpose: The purpose formulated in the article is to improve coherence between the concepts of dynamic capabilities (DC) and competence management (CM).
Design/methodology/approach: A critique of the dynamic capabilities concept will be conducted using a systematic-narrative literature review, with particular emphasis on articles by the founders of the DC concept and articles containing criticism of this concept. Achievements to date in the field of CM will also be taken into account, in order to introduce a correction to the DC concept.
Findings: The concept of dynamic capabilities constitutes a component of the CM concept. It reduces to the management of one fairly narrow, though important, category of competencies, namely the competencies for managing organisational adaptation to rapidly changing market conditions — i.e., quick adaptability competence (QAC).
Research limitations/implications: The starting point for the critique is the most important publications on the concept of dynamic capabilities selected from only two main authors in this area: D. J. Teece and K. M. Eisenhardt.
Practical implications: The research results will facilitate understanding of the DC concept in enterprises, among other things by changing its name to one adapted to the clarified real scope of impact.
Social implications: Achieving the formulated objective will improve the process of formulating certain competency requirements in job advertisements and recruitment processes, leading to their enhancement, and thus to increased satisfaction of job candidates and subsequently employees, especially in managerial positions.
Originality/value: To date, scientific research has been dominated by attempts at a critical approach to the DC concept in the aspect of strategic management rather than CM. The research gap in this area has been filled in the present article.
Keywords: dynamic capabilities, competence management, adaptability competence, strategic management.
Category of the paper: Research paper.

1. Introduction

The high dynamics of changes in the business environment translates into the need for organisations to continuously adapt to new conditions, which is essential for their survival and development. Environmental volatility stimulates internal changes in organisations and generates demand for the improvement of management methods and systems, hence their continuous development. One of the concepts addressing the need for organisations to adapt to change is the one concerning dynamic capabilities (DC), whose precursors were Teece and Pisano (1994), continued by Eisenhardt and Martin (2000).

The DC concept has been refined for over thirty years. During this time, however, other approaches to organisational management have also developed, including competence management (CM), first as a sub-discipline within human resource management (HRM) (Armstrong, 2006, p. 248; Hrabal et al., 2021, p. 278), and now increasingly as independent from it (Medina, R., Medina, A., 2017, pp. 505-506; Szafrański, 2022, pp. 137-138).

The long-term, parallel and independent development of various management concepts often leads to contradictions between them. A clear inconsistency between DC and CM has been identified. In connection with this, a critical analysis of the DC concept in the CM aspect was carried out. Criticism does not imply negation but reduces to indicating the merits and shortcomings of DC; its ultimate consequence is to achieve greater integration between these two concepts, which will positively influence their further development, understanding and the increase of the potential for simultaneous use in organisations.

The DC subject is quite frequently addressed in the stream of research on strategic management (SM), while a research gap has been identified with regard to considering DC in the context of CM, which is surprising given that the concept of capability is often treated interchangeably with the concept of competence in the DC literature.

The result of linking DC with CM will be a different perspective on the concept of dynamics and a proposal to move away from the concept of dynamic capabilities, treating dynamics as a characteristic of every competence and a characteristic of the market.

The aim of this research is to improve coherence between the DC and CM concepts.

The general research question posed in the article is: what are dynamic capabilities in the context of competence management?

2. Literature research method

In order to verify and explain what dynamic capabilities are, and then to take a critical view of this concept with the aim of achieving greater coherence between DC and CM, the following literature research method was adopted:

- stage 1: selection and review of the literature on DC,
- stage 2: selection and review of the literature on critical references to DC,
- stage 3: synthesis concerning the basic concepts within the DC framework and changes occurring in this concept over the years,
- stage 4: comparison of DC with competencies,
- stage 5: development of a proposal for greater coherence between DC and CM.

Stages 1 and 2 concerned the preparation and familiarisation with the data and will be described in this section. The results of stages 3, 4 and 5 are the research findings, which will be presented in the next section.

Stage 1: selection and review of the literature on DC. First, a systematic review was conducted, consisting of an initial review of the literature from a selected database based on selected queries, and then, within the resulting publication database, a narrative review was conducted with purposive selection of chosen publications. The SCOPUS database was used. Two queries were formulated, both on 07.01.2026:

- Query no. 1: "dynamic capabilit*" AND Teece; result: 77 publications; in the years 1994-1997 Teece published 3 articles on the subject under study, of which 2 most frequently cited were selected for further analysis — purpose: selection of publications containing the original form of the DC concept; in the years 2022-2025 Teece published 9 articles on the subject under study, of which 5 most frequently cited or strictly on topic were selected for further analysis — purpose: selection of publications containing the current form of the DC concept; in total, the content of 7 publications was initially analysed — purpose: capturing changes in the views of Teece and co-authors with whom he published on the subject of DC; ultimately, an eighth publication from 2007 was added to the set of analysed publications, due to significant references to it in previously selected articles;
- Query no. 2: "dynamic capabilit*" AND Eisenhardt; result: 7 publications; 3 publications were selected for further analysis: the first from 2000 with the original form of the DC concept and two later ones from 2010 and 2011; all three are simultaneously the most frequently cited from the entire set; purposes: selection of publications containing both the original and the most current form of the DC concept; comparison of the concept of two researchers who do not write together — Eisenhardt and co-authors vs. Teece and co-authors.

Stage 2: selection and review of the literature on critical references to DC. First, a systematic review was conducted, consisting of an initial review of the literature from a selected database based on a selected query, and then, within the resulting publication database, a narrative review with purposive selection of chosen publications. The SCOPUS database was used. On 07.01.2026 the following query was formulated: "dynamic capabilit*" AND critici*. In response, 36 publications were obtained, from which 7 most frequently cited and strictly on topic were purposively selected. The purpose of the selection was to identify the merits and shortcomings of DC presented by researchers other than the creators of the concept.

Before proceeding to stages three through five, after a rapid reading of the selected publications, several specific questions related to the general question were formulated:

SQ1: What are dynamic capabilities?

SQ2: What types of DC can be distinguished?

SQ3: How should the concept of microfoundation be understood?

SQ4: What merits and shortcomings of the DC concept are most frequently indicated by other researchers (other than Teece and Eisenhardt and their co-authors)?

SQ5: Does the DC concept constitute a component of the CM concept?

Questions SQ1-SQ4 are related to the third stage of the work and question SQ5 to the fourth and fifth stages.

3. Literature research method

3.1. Synthesis concerning the basic concepts within the DC framework and changes occurring in this concept over the years

As part of the third stage of research work, a synthesis was conducted concerning the basic concepts within the DC framework and changes occurring in this concept over the years. The scope of the presentation was determined by the formulated specific questions.

3.1.1. Dynamic capabilities

In the first widely popularised publication, Teece and Pisano defined DC as: "a subset of the competences/capabilities of the firm that allow the firm to create new products and processes and respond to changing market circumstances" (1994, p. 541). They therefore understood them as a subset distinguished from the entire set of competencies: $DC \subset C$, where C — competencies.

Three years later, Teece, Pisano and Shuen described DC as: "the ability of the firm to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (1997, p. 516). From this definition it followed that DC are abilities to undertake selected activities in enterprises oriented towards shaping a particular category of competencies, namely those whose use would ensure response to changing environments.

Moreover, the concern was not with all environmental changes but only with rapid environmental changes. In addition, in subsequent publications, DC were presented in opposition to ordinary capabilities (OC) (Teece, 2023).

Teece, Pisano and Shuen distinguished two types of competencies from the category necessary for responding to rapidly changing environments. These were internal and external competencies, which would indicate that the use of DC should ensure an impact on competencies contained within the organisation as well as those possessed by persons or organisations outside the boundaries of the organisation under consideration.

Agreement on the purpose of distinguishing and developing DC can be found in the publication by Eisenhardt and Martin (2000). They too drew attention to the important role of DC in adapting organisations to market changes. However, they understand the concept of DC differently from Teece and co-authors. In their view, DC are not a subset of competencies or capabilities, but rather: "the firm's processes that use resources — specifically the processes to integrate, reconfigure, gain and release resources". In other words, they are: "the organisational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die" (Eisenhardt, Martin, 2000, p. 1107). Somewhat later, writing about routines, Bingham and Eisenhardt explained that this concept was adopted after Nelson and Winter (1982) and means: "learned, highly patterned, repetitive" behaviour (Bingham, Eisenhardt, 2011, p. 1439). This understanding of a routine is quite similar to the understanding of a function in the classical stream of management, understood as: "a repetitive, typical and formalised activity, separated on the basis of content and a specific task" (Hamrol, Mantura, 1998, p. 69).

3.1.2. Types of dynamic capabilities

From the first publications by Teece and co-authors, it follows that DC, and consequently their set, are determined by three categories of factors: processes, positions and paths (PPP) (Teece, Pisano, 1994, pp. 541, 550), whereby processes are shaped by the assets of the enterprise (called positions) and paths, which, more precisely, are evolutionary paths (Teece, Pisano, Shuen, 1997, p. 524). Since PPP undergo transformations, it can be inferred that the set of DC may also change. Independently, Teece in a later work defined three main categories (clusters) of DC, including: sensing, seizing and transforming (SST) (2023) and called them high-level dynamic capabilities, suggesting that they contain within themselves low-level DC, i.e., all elementary DC. Examples are provided in Table 1.

Table 1.
Dynamic capabilities according to Teece and co-authors (in later works)

High-level dynamic capabilities	Exemplary components of high-level dynamic capabilities
Sensing	– Search for new technologies. – Identification of customer needs. – Entrepreneurial orientation (innovativeness, proactiveness, risk-taking).
Seizing	– Rapid development of new products. – Effective collaboration with partners. – Development of complementary, co-specialised assets. – Creation of common rules and agreements.
Transforming	– Achieving decentralization. – Flexible coordination of asset usage (semi-persistent asset orchestration). – Effective knowledge transfer. – Ad hoc problem solving.

Source: Pitelis, Teece, Yang, 2024; Foss, Schmidt, Teece, 2023; Teece, 2024; Heaton, Teece, Agronin, 2022.

It is worth noting that the processes which Teece and co-authors consider to be determinants of DC development, Eisenhardt and Martin treat as DC themselves, and very specific ones at that, such as: product development, alliance formation, strategic decision-making, rather than abstract "routines for learning routines" (2000, p. 1107). A compilation of DC mentioned in works with Eisenhardt's co-authorship is presented in Table 2.

Table 2.
Dynamic capabilities according to Eisenhardt and co-authors

Categories of dynamic capabilities	Dynamic capabilities (routines)
Resource integration capabilities	– Product development. – Strategic decision-making.
Resource reconfiguration capabilities	– Transfer processes. – Resource allocation. – Co-evolution. – Business alignment.
Resource acquisition and release capabilities	– Knowledge creation. – Alliances. – Acquisitions. – Exit routines.
Strategic processes	– Internationalisation. – Architectural innovation and modular corporate forms.

Source: Bingham, Eisenhardt, 2011; Eisenhardt, Martin, 2000; Eisenhardt, Furr, Bingham, 2010.

3.1.3. Microfoundations

An important concept in the DC framework is that of microfoundations. Originally, Teece understood by this term the set of all distinguishable: "skills, processes, procedures, organisational structures, decision rules and disciplines" (2007, p. 1319). This understanding of microfoundations was also adopted in later publications (Pitelis, Teece, Yang, 2024). They are therefore all distinguishable components forming the foundation for the development of SST. From this definition it follows that for SST (i.e., DC), which constitute one of the categories in

the set of all distinguishable competencies, one of the components of this foundation may be other competencies (e.g., skills) that are not part of DC.

In a later publication, Teece calls microfoundations "low-level dynamic capabilities" (2023, p. 123), which might suggest a departure from the original definition and recognition that these are capabilities constituting components of SST; however, immediately afterwards Teece refers back to the 2007 publication, leading to terminological confusion. In the same publication, as an example of a microfoundation, i.e., a low-level DC, he cites processes such as the creation of external partnerships or the development of new products (2023, p. 119), which in earlier articles he treated not as DC but as the foundation for DC development. Ultimately, one may have the impression that the concept of microfoundation is a general name for every entity distinguished within the DC framework and could equally well be replaced by the concept of variable, entity, construct, etc.

According to Eisenhardt, Furr and Bingham (2010), microfoundations are not DC but shape DC. Unlike DC considered at the organisational level, microfoundations are heuristics, cognitive processes and individual decisions considered at the level of individuals and groups (2010, p. 1263).

3.1.4. Merits and shortcomings of the DC concept frequently indicated by other researchers

Table 3 presents the merits and shortcomings of DC frequently described in the literature.

Table 3.
Merits and shortcomings of DC

	Barreto, 2010, pp. 257, 258, 270	**Arndt et al., 2022, pp. 423, 426-427**	**Kurtmollaiev, 2020, pp. 3-6**	**Kapoor, Aggarwal, 2020, pp. 187, 191-196**	**El Shafeey, Trott, 2014, pp. 125, 137-138, 142**	**Kuuluvainen, 2012, pp. 382-383, 386-389**
MERITS						
Interdisciplinarity	1					
Theoretical significance		1	1			
Progress in DC research		1				
Integrative potential of approaches based on: transaction costs, resources (RBV), knowledge (KBV) or complementing the static character of RBV				1	1	
Support in identifying accumulation processes					1	
Instrumental potential for resource manipulation				1		
Contextual flexibility						1

Cont. table 3.

SHORTCOMINGS						
Difficulty in establishing links between DC and other theoretical schools, in particular RBV and the competence-based view (CBV)	1				1	
Inconsistency of definitions, ambiguity, mysteriousness, abstractionism, intangibility, tautology in the DC concept and conceptual vagueness	1					1
Contradictory interpretations of DC between different schools developing this concept		1	1	1		1
Fragmented research		1		1		
Redundancy in the division into dynamic and ordinary/operational capabilities			1			1
Indeterminacy of DC hindering their empirical testing			1			
Insufficient number of empirical studies on DC		1		1		

Source: as in the table.

4. Dynamic capabilities and competencies

Since dynamic capability has already been described, before comparing it with the concept of competence it is necessary to provide a synthetic introduction to the latter. A universal characterisation of competence will be presented (in the aspect of management in organisations). The narrowing to the aspect of management is key, since the same object can be perceived significantly differently in disciplines other than management sciences (e.g., in psychology).

The universal characterisation of competence consists of several basic features:

Feature 1. Competencies are characteristics of people. Treating competence as a human characteristic is typical in management sciences (Boyatzis, 1982; Spencer, L.M., Jr., Spencer, S.M., 1993; Gangani et al., 2006).

Feature 2. For organisations, competencies constitute a resource. This property of competence fits within the RBV approach (Wernerfelt, 1984) and was postulated by Teece, Pisano and Shuen (1997) and commonly accepted by other researchers (Knight, Kim, 2009; Ganie, 2019).

Feature 3. Competencies manifest themselves in action. This feature follows directly from the theory of competence as a behavioural pattern (Woodruffe, 1993).

Feature 4. Competencies are subject to structuring; hence, they can be represented in hierarchical trees (Whiddett, Hollyforde, 2003). Each competence from a higher level in the tree constitutes a meta-competence for the set of competencies from the lower level assigned to it.

Feature 5. The value of a given competence in organisations changes and depends on changing objectives over time; hence, it is sometimes perceived as a resource and other times not (the relativity of the concept of resource). Sometimes it is required at a higher level and other times at a lower level.

Feature 6. The concepts of other categories of competencies (e.g., organisational, team) constitute shortcuts, under which one should understand sets of human competencies or systems of competencies from those sets. Their use, as a result of the implementation of management functions, leads to a synergy effect in achieving current objectives formulated in organisations.

Taking into account the distinguished features of competencies, DC can be treated as a category of competencies, considered on the basis of Feature 6, which, for example, Teece (2007; 2023, pp. 123-124) proposes to lay out in the form of a tree on the basis of Feature 4. And this category ultimately consists of human competencies distinguished on the basis of Features 1, 2 and 3.

In the CM literature, competencies are often categorised according to the KSAO model (knowledge, skills, abilities, others) (Campion et al., 2011, p. 226), and in such a model the category of competencies that DC represent may also be considered. In connection with changes occurring in the organisation and in its environment, the demand for competencies from the DC category changes on the basis of Feature 5.

DC are a category of competencies in an organisation whose possession is expected of managers, and thus these competencies will be particularly important in managerial positions. In the concept of dynamic capabilities, the component "dynamic" indicates rather the objective that managers are to achieve by using DC and not the nature of these competencies. The name of this category of competencies is therefore misleading. It is more advantageous to speak of the category of competencies that managers should possess in order to be able to effectively achieve objectives in organisations, which often change due to market dynamics. However, if the component "dynamic" were eliminated from the DC name, only the component "capabilities" would remain, which requires some specification. If DC are a category distinguished from the set of all possible competencies, it would be advantageous to name this category with a more concrete qualifier, as is done in the case of other categories of competencies (marketing competencies, logistics competencies, etc.).

5. Towards coherence between DC and CM — discussion and conclusions

El Shafeey and Trott (2014, pp. 122-127) emphasised the importance of research on the integrity of three approaches: RBV, DC and CBV. They themselves considered them as separate, as did, for example, Makadok (2001). At the same time, they noted that some researchers (Barney, Clark, 2007) treat the three mentioned approaches as the same school, and the scientific discussion mainly concerns the name of the common theoretical approach. Taking into account the earlier findings, following Barney and Clark, a reductionist approach is proposed, consisting in treating DC as a category of competencies and assigning them a more adequate name, which will not affect in any way the research into their impact on SM. It is proposed to call them adaptability competence (AC). From the analysed literature it unambiguously follows that AC are the competencies of managers that allow them to quickly, and at the same time effectively and efficiently, adapt the organisation to dynamically changing market conditions.

The ability to adapt to new conditions is adaptation. Every person has both some level of adaptive capability and the ability to influence the adaptation of others. Managers may possess different bundles of competencies (at different levels) for adapting the organisation to changing conditions, particularly in a market with high change dynamics. In such conditions, they should possess the meta-competence of quick adaptability (of the organisation), which will consist of elementary competencies.

The proposed modified approach to DC leads to:

- moving away from the name dynamic capabilities (DC) and transitioning to the name adaptability competence (AC) or quick adaptability competence (QAC),
- abandoning the concept of a closed catalogue of DC and opening up the set of AC, treated as a temporally changing bundle of elementary competencies with varying dynamics of change, depending on market dynamics, including the internal environment of the organisation,
- treating AC as one of the categories of the complete set of competencies, i.e., abandoning the division into DC and operational/ordinary capabilities,
- assigning the concept of "dynamism" to phenomena such as: variability of market conditions, knowledge of which will be relevant in the context of demand for AC; variability of demand for competencies and their level, but not only AC but all competencies, in accordance with Feature 5 of competencies.

6. Summary

The article proposes moving away from the concept of DC in favour of the concepts of AC and QAC. The change of name is not an aesthetic procedure but a consequence of a change in thinking about DC and the inclusion of the DC concept in the CM conceptual stream. Such a change is possible thanks to the dynamic development of the CBV concept and signs of its transformation into the CM concept. The main limitation of the research conducted was the adoption as a starting point for the critique of the most important, but not all, publications on the concept of dynamic capabilities exclusively of two selected main authors in this area: D.J. Teece and K.M. Eisenhardt.

Further research should aim at empirically confirming that DC are one of the categories of AC, in particular QAC, and at a deeper understanding of the link between market dynamics and competence dynamics, including the dynamics of AC or QAC.

References

1. Andreeva, T., Ritala, P. (2016). What are the sources of capability dynamism? Reconceptualizing dynamic capabilities from the perspective of organizational change. *Baltic Journal of Management*, *Vol. 11, Iss. 3*, pp. 238-259, doi: 10.1108/BJM-02-2015-0049
2. Armstrong, M. (2006). *A handbook of human resource management practice*. London/Philadelphia: Kogan Page.
3. Arndt, F., Galvin, P., Jansen, R.J.G., Lucas, G.J.M., Su, P. (2022). Dynamic capabilities: New ideas, microfoundations, and criticism. *Journal of Management & Organization*, *Vol. 28, Special Iss. 3*, pp. 423-428, doi: 10.1017/jmo.2022.57
4. Barney, J.B., Clark, D.N. (2007). *Resource-Based Theory: Creating and Sustaining Competitive Advantage*. Oxford: Oxford University Press.
5. Barreto, I. (2010). Dynamic Capabilities: A Review of Past Research and an Agenda for the Future. *Journal of Management*, *Vol. 36, Iss. 1*, pp. 256-280, doi: 10.1177/0149206309350776
6. Bingham, C.B., Eisenhardt, K.M. (2011). Rational heuristics: the 'simple rules' that strategists learn from process experience. *Strategic Management Journal*, *Vol. 32, Iss. 13*, pp. 1437-1464, doi: 10.1002/smj.965
7. Boyatzis, R.E. (1982). *The competent manager: A model for effective performance*. New York: John Wiley & Sons.

8. Campion, M.A., Fink, A.A., Ruggeberg, B.J., Carr, L., Geneva, G.M., Odman, R.B. (2011). Doing Competencies well: Best Practices in Competency Modeling. *Personnel Psychology*, *Vol. 64, Iss. 1*, pp. 225-262, doi: 10.1111/j.1744-6570.2010.01207.x
9. Eisenhardt, K.M., Furr, N.R., Bingham, C.B. (2010). Crossroads — microfoundations of performance: balancing efficiency and flexibility in dynamic environments. *Organization Science*, *Vol. 21, Iss. 6*, pp. 1263-1273, doi: 10.1287/orsc.1100.0564
10. Eisenhardt, K.M., Martin, J.A. (2000). Dynamic capabilities: what are they? *Strategic Management Journal*, *Vol. 21, Iss. 10/11*, pp. 1105-1121, doi: 10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E
11. El Shafeey, T., Trott, P. (2014). Resource-based competition: three schools of thought and thirteen criticisms. *European Business Review*, *Vol. 26, Iss. 2*, pp. 122-148, doi: 10.1108/EBR-07-2013-0096
12. Foss, N.J., Schmidt, J., Teece, D.J. (2023). Ecosystem leadership as a dynamic capability. *Long Range Planning*, *Vol. 56*, *102270*, doi: 10.1016/j.lrp.2022.102270
13. Gangani, N., McLean, G.N., Braden, R.A. (2006). A competency-based human resources development strategy. *Performance Improvement Quarterly*, *Vol. 19, Iss. 1*, pp. 127-139, doi: 10.1111/j.1937-8327.2006.tb00361.x
14. Ganie, S.A. (2019). Human Resource Management: A Competence Based Approach. *Pacific Business Review International*, *Vol. 12, Iss. 3*, pp. 30-37.
15. Hamrol, A., Mantura, W. (1998). *Zarządzanie jakością: Teoria i praktyka [Quality management: Theory and practice]*. Warszawa/Poznań: PWN.
16. Heaton, S., Teece, D.J., Agronin, E. (2022). Dynamic capabilities and governance: An empirical investigation of financial performance of the higher education sector. *Strategic Management Journal, Vol. 44, Iss. 2*, pp. 520-548, doi: 10.1002/smj.3444
17. Hrabal, M., Tucek, D., Molnar, V., Fedorko, G. (2021). Human factor in business process management: modeling competencies of BPM roles. *Business Process Management Journal, Vol. 27, Iss. 1*, pp. 275-305, doi: 10.1108/BPMJ-04-2020-0161
18. Kapoor, M., Aggarwal, V. (2020). Tracing the economics behind dynamic capabilities theory. *International Journal of Innovation Science, Vol. 12, Iss. 2*, pp. 187-201, doi: 10.1108/IJIS-05-2019-0050
19. Knight, G.A., Kim, D. (2009). International business competence and the contemporary firm. *Journal of International Business Studies, Vol. 40, Iss. 2*, pp. 255-273, doi: 10.1057/palgrave.jibs.8400397
20. Kurtmollaiev, S. (2020). Dynamic capabilities and where to find them. *Journal of Management Inquiry, Vol. 29, Iss. 1*, pp. 3-16, doi: 10.1177/1056492617730126
21. Kuuluvainen, A. (2012). How to concretize dynamic capabilities? Theory and examples. *Journal of Strategy and Management, Vol. 5, Iss. 4*, pp. 381-392, doi: 10.1108/17554251211276353

22. Makadok, R. (2001). Toward a synthesis of the resource-based and dynamic-capability views of rent creation. *Strategic Management Journal, Vol. 22, Iss. 5*, pp. 387-401, doi: 10.1002/smj.158
23. Medina, R., Medina, A. (2017). Managing competence and learning in knowledge-intensive, project-intensive organizations: a case study of a public organization. *International Journal of Managing Projects in Business, Vol. 10, Iss. 3*, pp. 505-526, doi: 10.1108/IJMPB-04-2016-0032
24. Nelson, R.R., Winter, S.G. (1982). *An evolutionary theory of economic change*. Cambridge, Mass.: Belknap-Harvard University Press.
25. Pitelis, C.N., Teece, D.J., Yang, H. (2024). Dynamic capabilities and MNE global strategy: a systematic literature review-based novel conceptual framework. *Journal of Management Studies, Vol. 61, Iss. 7*, pp. 3295-3326, doi: 10.1111/joms.13021
26. Spencer, L.M., Jr., Spencer, S.M. (1993). *Competencies at work: Models for superior performance*. New York: John Wiley & Sons.
27. Szafrański, M. (2022). *Modelowanie wymagań kompetencyjnych na stanowiskach pracy [Modelling competency requirements at work positions]*. Poznań: Wydawnictwo Politechniki Poznańskiej.
28. Teece, D.J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal, Vol. 28, Iss. 13*, pp. 1319-1350, doi: 10.1002/smj.640
29. Teece, D.J. (2023). The evolution of the dynamic capabilities framework. In: R. Adams, D. Grichnik, A. Pundziene, C. Volkmann (Eds.), *Artificiality and sustainability in entrepreneurship: Exploring the unforeseen and paving the way to a sustainable future* (pp. 113-129). Cham: Springer.
30. Teece, D.J. (2024). Evolutionary economics, routines, and dynamic capabilities. K. Dopfer, R.R. Nelson, J. Potts, A. Pyka (Eds.), *Routledge Handbook of Evolutionary Economics* (pp. 197-214). London: Routledge.
31. Teece, D.J., Pisano, G. (1994). The dynamic capabilities of firms: an introduction. *Industrial and Corporate Change, Vol. 3, Iss. 3*, pp. 537-556, doi: 10.1093/icc/3.3.537-a
32. Teece, D.J., Pisano, G., Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, Vol. 18, Iss. 7*, pp. 509-533, doi: 10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z
33. Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, Vol. 5, Iss. 2*, pp. 171-180, doi: 10.1002/smj.4250050207
34. Whiddett, S., Hollyforde, S. (2003). *A Practical Guide to Competencies: How to Enhance Individual and Organisational Performance*. London: Chartered Institute of Personnel and Development Publishing.
35. Woodruffe, C. (1993). What Is Meant by a Competency? *Leadership & Organization Development Journal, Vol. 14, Iss. 1*, pp. 29-36, doi: 10.1108/eb053651