

## CASE STUDIES AS A RESEARCH METHOD IN MANAGEMENT SCIENCE

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**Purpose:** Article describes the case studies as a cornerstone research method in management science, offering the promise of profound insights, bridging theory with practice, and addressing the intricacies of organisational phenomena.

**Design/methodology/approach:** This study delves into the pivotal role of case studies as a research method, shedding light on their distinctive characteristics and contributions.

**Findings:** Case study research refer to positivist criteria for evaluation, namely, relevance and reliability. Although the questions they address are not novel, their relevance persists, prompting continuous research into their evolution.

**Research limitations/implications:** Case studies present inherent challenges, encompassing issues of generalizability and subjectivity. Researchers must meticulously contemplate case selection, data collection methodologies, and analytical techniques to uphold rigor and validity. When executed rigorously, they contribute to a more profound comprehension of management challenges and the formulation of effective strategies to confront them.

**Practical implications:** Case studies entail thorough investigations of specific instances or organisations, offering researchers a unique opportunity to deeply explore real-world challenges. They foster a comprehensive comprehension of multifaceted issues by incorporating diverse data sources, including interviews, observations, documents, and archival records. By scrutinising how management theories and strategies manifest in real-world contexts, case studies enable researchers to assess existing theories, formulate novel ones, and generate actionable insights to inform decision-making.

**Originality/value:** As management science evolves, case studies persists as an indispensable instrument for researchers navigating the complexities of the contemporary business landscape.

**Keywords:** case studies, research method, management.

**Category of the paper:** Literature analysis.

## 1. Introduction

Management is a practical activity, i.e., the conscious and purposeful action of people seeking to change existing economic and social realities. Consequently, the main function of management science is the projective function, i.e., formulating indications on how to improve the management process. The boundary between scientific research and activities of a practical nature appears to be small. This is particularly true for many nonroutinised engineering activities, which have all the basic characteristics of scientific activity, e.g., the implementation of research results into practice (Sudol, 2011).

While numerous scientific fields employ unique and inherent cognitive approaches for addressing research challenges, the discipline of management lacks a fixed, universally applicable methodology. Instead, management integrates techniques borrowed from various other fields, including statistics, econometrics, economics, sociology, and psychology. The methodology within the realm of management functions as a reflection of the evolutionary changes that have unfolded over time in managerial practices, providing insights into the current state of an organisation. It remains in a constant state of expansion as fresh methods emerge, each characterised by varying degrees of cognitive and practical effectiveness. The continuous proliferation of diagnostic tools primarily stems from evolving environmental factors and the increasing demand for more sophisticated and efficient instruments (Dul, Hak, 2008; Patil, 2016; Tandukar, 2018; Sieklicki, Tanev, 2021; Kharazishvili et al., 2020; Moskalenko et al., 2020; Trushkina et al., 2020; Hryhorak et al., 2021; Dźwigoł, 2001; 2003; 2009; Dźwigoł-Barosz, Dźwigoł, 2020; Dźwigoł, Wolniak, 2018; Dźwigoł, Trzeciak, 2023; Dźwigoł et al., 2019a; 2019b; 2019c; 2020a; 2020b; 2020c; Kwilinski, 2023; Kwilinski et al., 2020; 2021; 2022a; 2022b; 2023a; 2023b; 2023c; 2023d; 2023e; 2023f; 2023g; Peffers et al., 2007; Aguinis, Solarino, 2019; Kogetsidis, 2023; Xiang, Hou, 2023).

In the discipline of management science, historically speaking, four fundamental types of methods can be distinguished. These include pragmatic, empirical, formal and understanding (Ostasz, 1999).

Management methodology can sometimes be full of contradictions and divergent results. Its task is to combine utilitarian and practical objectives, and this in itself can produce convergent or even contradictory results. The discipline of management science relies on methodologies from other sciences, most often from the natural sciences and the social sciences (Dźwigoł, 2018; 2023).

The contemporary importance of case studies to the development of the discipline of management science is highlighted. As the most widespread achievements in this field, one should mention the studies of H. Fayol, K. Adamiecki, and A. Sloan and, in recent years, the works of A.D. Chandler (1962), R.M. Kanter (1977), R. Eccles & D. Crane (1988), K. Eisenhardt & M. Zbaracki (1992) and H. Mintzberg & J. Waters (1985). The use of case

studies in published works oscillates at a level of less than one in ten published works, but this level may be misleading, as some studies, e.g., organisational ties (Oliver, Ebers, 1998) and the ambidextrousness of organisations (Raich et al., 2009), make significant use of this method. Therefore, the usefulness of case studies in the early identification of a scientific problem is often noted.

In the paper, the author emphasises the importance of the case study method in research processes. He emphasises that the usefulness of case studies is limited to a specific type of hypothesis being tested and is gradable and that their use should be a second or third choice of research strategy.

## **2. Applying a qualitative approach to management science research**

According to W. Czakon (2009), in management science publications, despite perceived growth, qualitative research, which is very useful and can provide knowledge that cannot be obtained using a quantitative approach, is still too rarely used.

A set of certain assumptions, also known as paradigms, determines the choice of a particular research approach. According to Ł. Sułkowski (2015), a paradigm refers to a set of concepts and theories that are generally accepted by the scientific community of specialists in a particular field.

The relationship between paradigm and methodology is very important. Researchers must use a method that is consistent with the assumptions and objectives of the theoretical views expressed by the author (Gephart, 2004).

There are many classifications of paradigms. The division proposed by G. Burrell & G. Morgan (1978) is referred to by many researchers. These authors distinguished four paradigms in the social sciences: functionalism, radical structuralism, interpretative-symbolic paradigm and postmodernism. They adopted the following criteria to distinguish them:

- epistemological assumptions regarding science (objectivism and subjectivism refer to a vision of science that uses either methods that enable objectively existing elements of reality to be identified and described or methods that enable the elements of reality to be understood and assessed),
- perfectionist social orientation (regulation or radical change refers to the ideal of science chosen by the researcher - a passive description of reality or integration into reality that leads to change).

In turn, R. Gephart (2004) made a distinction between positivism and postpositivism (positivism and postpositivism take into account not only assumptions about the reality under study but also the aim and objectives of the research, the unit of analysis and the emphasis of the methods used), interpretative research (understanding meaning) and critical postmodernism (pointing out contradictions and inequalities).

Ł. Sułkowski (2013) made a synthetic division into so-called paradigms (Czernek, 2016, pp. 168-169):

- dominant in science (includes functionalism, neo-positivism and systems theory) - researchers look for recurring causal relationships that occur between the components of the reality under study. The main aim is to generalise and verify the assumptions made, including hypotheses, analyse and forecast change. The researcher adopts the position of the so-called outsider, i.e., an external subject, for whom the reality under study has an objective character, existing independently of the researcher,
- alternative (i.e., interpretivism and the critical current) - researchers focus on analysing not only recurrent but also unique/contextual relationships between the components of the studied reality. The aim is not so much to generalise or verify, but more to understand, describe, synthesise and indicate changes in the studied reality. The researcher is treated as a participant in the analysed processes, the so-called insider, and is therefore aware that he or she is part of this reality and adopts an axiological (valuing) stance.

Given the paradigm adopted by the researcher, the research methods used should be adapted to it. Thus, the choice of quantitative or qualitative approach first depends on the research problem posed by the researcher, then on the paradigm adopted (Czernek, 2016, pp. 169-170).

J. Suddaby (2006) argues that new developments are always the result of expectations of an unknown theory, and it is qualitative research that serves, among other things, to build theory. However, it should be noted that there is still a misunderstanding as to what this research actually is. According to Van Maanen (1998), qualitative research is difficult to define, given its flexibility, as it is often designed simultaneously with its implementation. Qualitative research addresses questions about the creation of social experience and the meaning that is given to it by social actors in order to better understand it (Gephart, 2004). They are therefore explanatory rather than conclusive in nature (Silverman, 2008).

M.E. Graebner, J.A. Martin and P.T. Roundy (2012) identify five key rationales for using qualitative research and these include:

- the construction of a new theory (when the theory explaining the phenomenon in question does not exist, or is insufficiently developed or has certain deficiencies),
- capturing the subjects' lived experiences in their natural environment and interpreting these experiences,
- a full, holistic understanding of the processes under study (may result in theory testing),

- an illustration of some abstract idea, derived solely from theory (illustration makes the research credible and convincing to the reader),
- the study of narratives, discourse or other linguistic phenomena (the subjects of the research may include statements collected during face-to-face interviews, as well as media statements, reports, websites, etc.).

The distinctiveness of the essence of qualitative research can also be achieved by comparing it with quantitative research (Czernek, 2016, p. 172).

The first difference is related to attribution to the paradigm in management science adopted by the researcher, i.e., the way in which the phenomena under study are understood and the belief that they can be influenced (Sułkowski, 2013).

Another difference is the stated research objective. A qualitative researcher mainly pursues the goal of building or refining theory and testing it. In quantitative research, on the other hand, the aim is to verify existing theory, most often by testing accepted hypotheses (Czernek, 2016). Furthermore, qualitative research, by focusing attention on socially constructed reality, requires knowledge of the context of the phenomena being analysed, unlike quantitative research (Chell, Baines, 2000).

A fourth difference is the importance of context in qualitative research and quantitative research - it is related to the role of the researcher. In qualitative research, according to A. Strauss & J. Corbin (1998, p. 69), the personality, experience and character of the researcher become important components of the research process and should be an explicit part of the analysis. In contrast, in quantitative research, the researcher does not influence the cognitive results achieved, as he or she investigates reality in an objective manner, devoid of axiological valuation and interpretation of the subjects themselves (Czernek, 2016, p. 174).

Qualitative research relies on text (words, conversations, etc.) and images to give meaning to concepts - it is literary and humanistic in nature (Nelkin, Brown, 1984). Quantitative research, on the other hand, counts and measures phenomena in order to give them meaning - it is grounded in mathematical and statistical knowledge (Gephart, 2004; Meißner, Oll, 2019).

A sixth difference concerns the presentation of a compelling story. This applies to both qualitative and quantitative research; however, it should be emphasised that for the first type of research, the story is crucial. For qualitative research, as in K.G. Corley & D.A. Gioia (2011), in addition to the scientific contribution, the discovery of new aspects of the analysed reality is particularly important, as the research should intrigue and inspire the reader (Czernek, 2016, p. 175).

Data and qualitative variables have certain characteristics that offer potential advantages over data and quantitative variables. It should be noted that qualitative data are highly malleable, which activates cognitive processes (Paivio et al., 1998), and rich and detailed, which provides the opportunity to show nuances or details often overlooked in quantitative research (Czernek, 2016).

The eighth difference comes down to the research procedure. In quantitative research, it is strict and specific - the researcher relies on accepted data sets and statistical tests and follows accepted research procedures. In qualitative research, on the other hand, its cyclical nature (iterative) becomes crucial; hence, it is difficult to have one universally accepted research procedure (Czernek, 2016).

Due to the different purpose of quantitative and qualitative research, the two approaches require a different presentation in terms of text structure and graphic presentation. Regarding the structure of the text - in qualitative research, especially based on grounded theory methodology, the structure of the text may be atypical (introduction, research results, formulation of new theory/hypotheses, etc., against the background of existing knowledge included in the literature, conclusion). In quantitative research, on the other hand, theory is often presented at the beginning of the paper (to develop hypotheses that are further tested on this basis), while empirical research is presented later in the paper (Islam, Widen, 2023). The differences that apply to the structure of the text also apply to the discussion and conclusion sections. In qualitative papers, the discussion section should be exhaustive - it should not just summarise the results and present theoretical as well as practical implications, as in quantitative papers. In addition, often in qualitative research, the discussion section is not distinguished because the strong link between empirical data and theory makes it difficult to distinguish different narratives within the 'research results' section. The conclusion in papers based on qualitative research is relatively elaborate - the opposite is true for papers based on quantitative research (the conclusion is relatively synthetic and short) (Czernek, 2016).

When presented graphically, qualitative data, unlike quantitative data, cannot be simply synthesised or reduced to tables or graphs. Qualitative researchers should think creatively about showing their results (Czernek, 2016).

The generalised qualitative research procedure consists of the following phases (Czernek, 2016):

- 1) The initial phase includes:
  - a) Formulation of the research problem.
  - b) A review of the literature on the subject.
  - c) Defining the research sample.
  - d) Selection and preparation of research tools.
  - e) Pilot field studies.
  - f) Modifications (if necessary) of research tools.
- 2) Phase I - Proper research and analysis of the material during fieldwork includes the following:
  - a) Field research.
  - b) Analysing the data during the research, keeping notes and at the same time (if necessary) further modifying the research tools.

- 3) Phase II - Analysis of the material after the fieldwork includes the following:
  - a) Analysis of documents, notes and any other material collected in the course of the fieldwork.
  - b) Transcription of interviews.
  - c) Coding interview data.
  - d) Interpretation of the content of the interviews and other materials collected.
  - e) Possible return to the field and consultation of results with respondents.
  - f) Possible interpretation of the material collected.
- 4) Phase III - Development of research results includes the following:
  - a) Formulation of research conclusions regarding theory and practice.
  - b) Preparation of a publication (research report).
- 5) Final phase - Submission of the study for review and presentation of its final form includes:
  - a) Taking into account the reviewers' comments and revisiting the concept as well as the conclusions of the research. If necessary, return to the field to conduct additional research.
  - b) Presentation of successive versions of the study, modifications.
  - c) Final version of the publication (research report).

Given the difficulty of conducting qualitative research, any researcher who has attempted this type of research at least once should ask themselves if this is the path for them (Czernek, 2016).

### **3. Case studies in the research process**

Case study research involves an in-depth analysis of phenomena and processes in their actual setting (Beach, Pedersen, 2016; Tight, 2017). It does not serve to test theories, except to falsify existing hypotheses, and contributes to a better understanding of the object of study (Czakoń, 2016, p. 208). The essence of using a case study is not to obtain universal regularities, but to anticipate the impact of the environment and the conditions of a given circumstance on the shape of the results obtained. The contextuality of the case study has consequences (Czakoń, 2016, p. 191):

- procedurally, because the researcher does not know the impact of the circumstances when he or she enters the study, making the case study procedure repetitive,
- cognitive, because the knowledge gained is situational - a given situation may not be repeated,
- tools, as research requires consideration not only of the research object but also of its environment and the impact of that environment on the object under study.

The essence of a case study is determined by the use of exploratory methods to gain an in-depth understanding of the phenomenon being analysed. The size or given characteristics of the object are not relevant here, as the object of study can be either a single decision (Mintzberg, 1979), a process (Dyer, Nobeoka, 2000), a cluster (Saxenian, 1996) or an entire country (Buck, Shahrim, 2006). In this context, J. Dul and T. Hak (2008) even point out that some authors indicate that interpretative methods determine the essence of the case.

Case studies in management science can be used for three purposes (Dźwigoł, 2018, p. 66; 2022a): theorygenic, theory testing, and executive research.

Theorygenic case studies enable the development of existing theory and understand the course of processes over time or provide explanations for previously unrecognised phenomena (Rajesh, 2023). Their use can lead to the definition of phenomenon features, the relationships between them and the course of phenomena. Theorygenic nature here involves two aspects: for, on the one hand, it provides hypotheses for quantitative research and, on the other hand, it opens up fields of exploration previously not considered at all or considered differently. Three conditions under which there is justification for the use of the case study method are indicated here (Yin, 1984):

- an early stage in the development of knowledge in a specific area of research,
- learning about a current phenomenon in a real-life setting,
- unclear boundaries between the phenomenon and the conditions for its occurrence.

All of these circumstances clearly highlight the shortcomings of theoretical clarification at the start of the research. Studying cases in such a situation leads to addressing these deficiencies (Czakoń, 2016, pp. 192-195):

- 1) when knowledge development in an area is low, i.e., when:
  - vague description of the phenomenon or research area, case studies provide empirical data and an interpretation of the participants in these dynamics,
  - the results of empirical studies are contradictory or insufficient, case studies prompt the search for complementary or competing explanations that increase the explanatory power of proposed models,
  - there is an incomplete list of determinants or characteristics of the phenomenon under study, case studies complement the knowledge obtained and provide the knowledge needed to make decisions or even conduct further research or provide a more complete picture of the phenomenon under study.
- 2) when the recognition of a contemporary phenomenon in real-life circumstances is legitimate, i.e., when:
  - the phenomenon under study is new at all or has dynamics that differ from previous conditions, the usefulness of case studies is related to the timeliness of the phenomenon and its extent,



- there is a multidirectionality and dynamics of interactions, case studies help to understand and explain the causes of a phenomenon,
  - there is economic cyclicity and product, technology and organisations.
- 3) when the boundaries between the phenomenon and the circumstances of its occurrence are vague, i.e., when there is a problem in precisely identifying the phenomenon under investigation, case study research can be used for in-depth research to complement the research conducted.

Theory testing in the management sciences is captured as the quantitative determination of the validity of a hypothesised relationship between variables using statistical techniques, i.e., to obtain correlation coefficients and consequently confirm the relationships identified in the hypothesis. The primary argument for using case studies to test theory is falsificationism. Falsifying a theory using case studies that contradict it or indicate that the theoretical explanation does not enable an understanding of organisational reality (Czakon, 2016, p. 196). A further argument for the usefulness of case studies relates to the nature of the hypotheses being tested (Dul, Hak, 2008, p. 66), as testing a theory is really a juxtaposition of hypothesised relationships between variables with the actual behaviour of those variables (Czakon, 2016, p. 196). Four types of hypothesis testing are identified (Dul, Hak, 2008; Czakon, 2016, pp. 196-197):

- the hypothesis presupposing the existence of a necessary condition (it states that in each case the relationship presented by the hypothesis will occur - variable A must appear for phenomenon B to occur) - one case is sufficient to test it,
- the sufficiency-condition hypothesis (states that the occurrence of variable A leads to the occurrence of phenomenon B), for which a single-case study or replication of single cases is sufficient,
- the deterministic relationship hypothesis (meaning that for each explanatory variable there will in fact be a relationship to the dependent variable as predicted by the hypothesis, the least frequently used in management science), when testing this hypothesis, longitudinal studies or paired case studies are recommended,
- the stochastic relationship hypothesis (contains the assumption that a change in the value of the independent variable will affect a specific change in the dependent variable, the most common type of relationship in management science), for which case studies are not a recommended research strategy.

In conclusion, it should be noted that the usefulness of case studies is limited to the specific type of hypotheses being tested and is gradable and that their use should be a second or third choice of research strategy rather than the first (Czakon, 2016, p. 197).

Application case studies, on the other hand, focus more on the preparation of the decision maker's action than on understanding general regularities. The didactic use of case studies originates from Harvard Business School, where they were first used in the 1920s. Because

they allow students to discuss real-world problems by simulating real-world decision-making problems, they should consist of two elements: (1) a description of the case and (2) a description of the technique for conducting the discussion. This implies, for applied studies, that the following conditions are met: a) definition of the managerial problem, which is illustrated by the case, b) definition of the way of studying the case (most often descriptive techniques are used here, allowing us to present a description of the conditions and the process of solving the problem in concrete conditions). Thus, it can be concluded that applied studies play an exploratory role, explaining what brings the desired result in the given conditions and allowing an in-depth understanding of the phenomenon and its conditions, while on the other hand, they do not offer the possibility to generalise (Czakon, 2016).

A research methodology is a general way of dealing with a class of problems, while a research procedure is related to a specific study. The research procedure for conducting a case study is as follows (Dźwigoł, 2018, p. 68; 2019a; 2020):

- the formulation of a research problem, where ignorance is the starting point of the case study and needs to be confirmed by literature recognition. Research questions here can be exploratory, descriptive or explanatory, the latter being the most common. The appropriate formulation of a research question should meet two conditions: the first is related to its location in the existing state of knowledge, and the second is related to the expected results (Dźwigoł, 2018, p. 200; 2021b; 2020b);
- case selection, which is a fundamental stage of case study and on which the whole model, or whole proposals for generalisation, are based. This selection involves the use of specific data sources to ensure the reliability of the research results. Purposive and theoretical case selection are indicated, but purposive selection is mostly used (apart from the use of case studies to test theory) (Dźwigoł, 2018, pp. 191, 200-202; 2019b; 2021a). Purposive selection is described by five criteria (Flyvbjerg, 2004): availability of data, clarity of the case, illustrating the extremes, but allowing for unambiguous interpretation, of the regularities analysed, diversity, concerning the analysis of multiple cases that illustrate diverse or contrasting circumstances, and which, as K. Eisenhardt (1991) points out, should be between four and ten cases, a critical phenomenon whose deviation from accepted standards or extreme course makes it possible to define a generalisation, and a metaphor, which directs the researcher to a given course of a particular phenomenon and makes it possible to adopt a given research position. Purposive selection in each case requires justification, which becomes an integral part of the case study and an area for assessing methodological rigour (Czakon, 2016, p. 202);

- the development of data collection tools, where the cyclical nature of the data collection procedure is typical, as well as the diversity of data sources (achieved through triangulation) to ensure the reliability of the research. Qualitative data include but are not limited to interviews, observations, participant observations, photographs, and archival material (Czakov, 2016, p. 203);
- conducting field research to collect primary data. The methodological rigour of case study research obliges the use of a deliberately prepared data collection protocol. Here, however, the researcher is open to unanticipated information, and research methods such as semistructured interviewing, observation, or participant observation allow the researcher to access the nature of the phenomena and the perceptions of the phenomena by their participants (Czakov, 2016, p. 203);
- analysis of the data collected, which includes both quantitative and qualitative data. With regard to qualitative data, it should be noted that accessing a large amount of low-order data requires structuring at the data collection stage, which can be carried out using one of seven data structuring and analysis techniques (narrative, quantification, multiple patterns, grounded theory, mapping and visualisation, temporal extraction, synthesis). As a result, the objective is to achieve as synthetic a presentation as possible of the wealth of empirical data by emerging a pattern of (logical, temporal or spatial) and then analysing it (Czakov, 2009, pp. 13-19; Czakov, 2016, pp. 203-204);
- the formulation of generalisations, which ranks as the most creative part of the case study and requires the ability to think synthetically, a great deal of intellectual effort and a deep understanding of the problem being analysed (Czakov, 2016, p. 205);
- confrontation with the literature, the purpose of which is to compare the models or explanations available in the literature with the generalisations generated by the analysis of empirical data and to illustrate the contribution of the study to the development of knowledge, as well as to bear on the credibility and reliability of the research conducted (Czakov, 2016, pp. 205-206);
- study closure - a generalisation that seeks to define sentences that define features, relationships or patterns of event dynamics and takes the form of a so-called proposition. In the event that the researcher considers that these propositions require testing using quantitative methods, he or she should formulate them in the form of hypotheses, which are the basis for future research (Czakov, 2016, p. 206).

Iterations of the individual steps are possible, except for the first and last step (Czakov, 2016, p. 200).

## 4. Summary

It should be pointed out that case studies also have some limitations. The first is related to the research objectives to which case studies can be applied. This is because it is common to expect the results of a case study to be confirmed on a collective. Such an allegation, however, stems from a cursory knowledge of the case study procedure.

After all, for some types of hypotheses, it is possible to test on individual cases. However, research practice in the management sciences allows the conclusion that case studies usually lead to hypotheses or theories, which are then tested using quantitative methods (Czakon, 2016, pp. 206-207). A second limitation of case studies concerns qualitative methods. Several objections are pointed out in this aspect, including unsystematic data analysis or failure to meet the criterion of intersubjective testability, but a rigorous case study procedure avoids these issues (Czakon, 2009, pp. 13-19). The third limitation is related to the case study procedure, as some of its important stages, e.g., case selection and formulation of generalisations, may narrow the cognitive value of the research results or reduce their reliability (Czakon, 2016, pp. 207-208). Hence, it is necessary to refer to the criterion of research reliability, the assessment of which, in the case of a case study, can be the same as in the case of qualitative research, i.e., using criteria such as fidelity, transitivity, robustness and confirmability (Czakon, 2009, pp. 13-19). It should be noted that despite the existence of criteria for assessing the rigour of case study research, authors using this method in papers published in top-ranked English-language journals between 1995 and 2000 refer to positivist criteria for evaluation, namely, relevance and reliability (Gibbert et al., 2009). This duality of evaluation of case study research emphasises the need to take into account their specificity, while on the other hand, it confirms the concern to evolve the traditional requirements for scientific research (Czakon, 2016, p. 208).

## References

1. Aguinis, H., Solarino, A.M. (2019). Transparency and replicability in qualitative research: The case of interviews with elite informants. *Strategic Management Journal*, 40(8), 1291–1315.
2. Beach, D., Pedersen, R.B. (2016). *Causal Case Study Methods: Foundations and Guidelines for Comparing, Matching, and Tracing*. Ann Arbor, Michigan: University of Michigan Press.
3. Buck, T., Shahrin, A., (2006). The Translation of Corporate Governance Changes Across National Cultures. The Case of Germany. *Journal of International Business Studies*, 36(1), 42-64.

4. Burrell, G., Morgan, G. (1978). *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life*. London: Heinemann.
5. Chandler, A.D. (1962). *Strategy and Structure. Chapters in the History of the American Industrial Enterprise*. Boston: MIT Press.
6. Chell, E., Baines, S. (2000). Networking, entrepreneurship and microbusiness behavior. *Entrepreneurship and Regional Development*, 12(3), 195-215.
7. Corley, K.G., Gioia, D.A. (2011). Building theory about theory building: What constitutes a theoretical contribution? *Academy of Management Review*, 36, 12-32.
8. Czakon, W. (2009). Mity o badaniach jakościowych w naukach o zarządzaniu. *Przegląd Organizacji*, 9, 13-17.
9. Czakon, W. (2016). Zastosowanie studiów przypadku w badaniach nauk o zarządzaniu. In: W. Czakon (Ed.), *Podstawy metodologii badań w naukach o zarządzaniu* (p. 208). Warsaw: PWN.
10. Czernek, K. (2016). Wprowadzenie do badań jakościowych w naukach o zarządzaniu. In: W. Czakon (Ed.), *Podstawy metodologii badań w naukach o zarządzaniu* (pp. 168-169). Warsaw: PWN.
11. Dul, J., Hak, T. (2008). *Case Study Methodology in Business Research*. London, UK: Butterworth-Heinemann.
12. Dyer, J., Nobeoka, K. (2000). Creating and Managing a High Performance Knowledge-Sharing Network: The Toyota Case. *Strategic Management Journal*, 21, 345-367.
13. Dźwigoł, H. (2001). *Oddziaływy Rachunek Kosztów oraz model budżetowania kosztów w górnictwie węgla kamiennego*. Konferencja naukowa. Reforma polskiego górnictwa węgla kamiennego. Zarządzanie innowacjami. Politechnika Śląska, PAN, Państwowa Agencja Restrukturyzacji Górnictwa, pp. 11-21.
14. Dźwigoł, H. (2003). Studium zarządzania zmianami w zgrupowaniu kopalń węgla kamiennego. *Zeszyty Naukowe. Organizacja i Zarządzanie/Politechnika Śląska*, 14, 245-255.
15. Dźwigoł, H. (2009). Model restrukturyzacji organizacyjnej przedsiębiorstwa górniczego. *Kwartalnik Naukowy Organizacja i Zarządzanie*, 2(6), 25-43.
16. Dźwigoł, H. (2018). *Współczesne procesy badawcze w naukach o zarządzaniu. Uwarunkowania metodyczne i metodologiczne*. Warsaw: PWN.
17. Dźwigoł, H. (2019a). Research Methods and Techniques in New Management Trends: Research Results. *Virtual Economics*, 2(1), 31-48. [https://doi.org/10.34021/ve.2019.02.01\(2\)](https://doi.org/10.34021/ve.2019.02.01(2)).
18. Dźwigoł, H. (2019b). The Concept of the System Approach of the Enterprise Restructuring Process. *Virtual Economics*, 2(4), 46-70. [https://doi.org/10.34021/ve.2019.02.04\(3\)](https://doi.org/10.34021/ve.2019.02.04(3)).
19. Dźwigoł, H. (2020). Methodological and Empirical Platform of Triangulation in Strategic Management. *Academy of Strategic Management Journal*, 19(4), 1-8.
20. Dźwigoł, H. (2021a). The Uncertainty Factor in the Market Economic System:

- The Microeconomic Aspect of Sustainable Development. *Virtual Economics*, 4(1), 98–117. [https://doi.org/10.34021/ve.2021.04.01\(5\)](https://doi.org/10.34021/ve.2021.04.01(5)).
21. Dźwigoł, H. (2021b). Methodological Approach in Management and Quality Sciences. *E3S Web of Conferences*, 307, 01002. <https://doi.org/10.1051/e3sconf/202130701002>
  22. Dźwigoł, H. (2022a). Research Methodology in Management Science: Triangulation. *Virtual Economics*, 5(1), 78–93. [https://doi.org/10.34021/ve.2022.05.01\(5\)](https://doi.org/10.34021/ve.2022.05.01(5)).
  23. Dźwigoł, H. (2022b). Comparing Idiographic and Nomothetic Approaches in Management Sciences Research. *Virtual Economics*, 5(4), 27–49. [https://doi.org/10.34021/ve.2022.05.04\(2\)](https://doi.org/10.34021/ve.2022.05.04(2))
  24. Dźwigoł, H. (2023). The Quality Determinants of the Research Process in Management Sciences. *Virtual Economics*, 6(2), 35–55. [https://doi.org/10.34021/ve.2023.06.02\(3\)](https://doi.org/10.34021/ve.2023.06.02(3)).
  25. Dźwigoł, H., Dźwigoł-Barosz, M. (2020). Sustainable Development of the Company on the Basis of Expert Assessment of the Investment Strategy. *Academy of Strategic Management Journal*, 19(5), 1–7.
  26. Dźwigoł, H., Trzeciak, M. (2023). Pragmatic Methodology in Management Science. *Forum Scientiae Oeconomia*, 11(1), 67–90. [https://doi.org/10.23762/FSO\\_VOL11\\_NO1\\_4](https://doi.org/10.23762/FSO_VOL11_NO1_4)
  27. Dźwigoł, H., Wolniak, R. (2018). Controlling in the Management Process of a Chemical Industry Production Company. *Przemysł Chemiczny*, 97(7), 1114–1116.
  28. Dźwigoł, H., Aleinikova, O., Umanska, Y., Shmygol, N., Pushak, Y. (2019a). An Entrepreneurship Model for Assessing the Investment Attractiveness of Regions. *Journal of Entrepreneurship Education*, 22, 1-7.
  29. Dźwigoł, H., Dźwigoł-Barosz, M., Kwilinski, A. (2020a). Formation of Global Competitive Enterprise Environment Based on Industry 4.0 Concept. *International Journal of Entrepreneurship*, 24(1), 1-5.
  30. Dźwigoł, H., Dźwigoł-Barosz, M., Miskiewicz, R., Kwilinski, A. (2020b). Manager Competency Assessment Model in the Conditions of Industry 4.0. *Entrepreneurship and Sustainability Issues*, 7(4), 2630–2644.
  31. Dźwigoł, H., Dźwigoł-Barosz, M., Zhyvko, Z., Miśkiewicz, R., Pushak, H. (2019c). Evaluation of the Energy Security as a Component of National Security of the Country. *Journal of Security and Sustainability Issues*, 8(3), 307–317.
  32. Dźwigoł, H., Kwilinski, A., Lyulyov, O., Pimonenko, T. (2023a). The Role of Environmental Regulations, Renewable Energy, and Energy Efficiency in Finding the Path to Green Economic Growth. *Energies*, 16(7), 3090. <https://doi.org/10.3390/en16073090>.
  33. Dźwigoł, H., Kwilinski, A., Lyulyov, O., Pimonenko, T. (2023b). Renewable Energy, Knowledge Spillover and Innovation: Capacity of Environmental Regulation. *Energies*, 16(3), 1117. <https://doi.org/10.3390/en16031117>.
  34. Dźwigoł, H., Shcherbak, S., Semikina, M., Vinichenko, O., Vasiuta, V. (2019b). Formation of Strategic Change Management System at an Enterprise. *Academy of Strategic Management Journal*, 18(Special Issue 1), 1–8.

35. Dźwigoł, H., Trushkina, N., Kwilinski, A. (2021). The Organizational and Economic Mechanism of Implementing the Concept of Green Logistics. *Virtual Economics*, 4(2), 41–75. [https://doi.org/10.34021/ve.2021.04.02\(3\)](https://doi.org/10.34021/ve.2021.04.02(3)).
36. Dźwigoł-Baros, M., Dźwigoł, H. (2021). Managing Family Businesses in Light of Methodological Assumptions for Higher Education. *E3S Web of Conferences*, 307, 06003. <https://doi.org/10.1051/e3sconf/202130706003>.
37. Eccles, R., Crane, D. (1988). *Doing Deals: Investment Banks at Work*. Boston: Harvard Business School Press.
38. Eisenhardt, K. (1991). Better Stories and Better Constructs: The Case of Rigor and Comparative Logic. *Academy of Management Review*, 16(3), 620-627.
39. Eisenhardt, K., Zbaracki, M. (1992). Strategic Decision Making. *Strategic Management Journal*, 13, 17-37.
40. Flyvbjerg, B. (2004). Five Misunderstandings about Case-Study Research. In: C. Seale, G. Gobo, J.F. Gubrium, D. Silverman (Eds.), *Qualitative Research Practice* (pp. 421-434). London-Thousand Oaks: Sage.
41. Gephart, R.P. Jr (2004). From the editors. Qualitative Research and the Academy of Management Journal. *Academy of Management Journal*, 47(4), 454-462.
42. Graebner, M.E., Martin, J.A., Roundy, P.T. (2012). Qualitative data: cooking without a recipe. *Strategic Organization*, 10(3), 276-284.
43. Hryhorak, M., Dźwigoł, H., Kwilinski, A., Trushkina, N., Ovdiienko, O. (2021). On the application of the concept of circular economy to ensure balanced sustainable development of the national logistics system in Ukraine. *Intellectualization of Logistics and Supply Chain Management*, 7-8, 6-25.
44. Islam, M.A., Widen, G. (2023). Bibliometric analysis of the VINE Journal of Information and Knowledge Management Systems: 2000–2020. *VINE Journal of Information and Knowledge Management Systems*, 53(3), 467-490. <https://doi.org/10.1108/VJIKMS-07-2020-0126>.
45. Kanter, R.M. (1977). *Men and Women of the Corporation*. New York: Basic Books.
46. Kharazishvili, Y., Kwilinski, A., Grishnova, O., Dźwigoł, H. (2020). Social Safety of Society for Developing Countries to Meet Sustainable Development Standards: Indicators, Level, Strategic Benchmarks (with Calculations Based on the Case Study of Ukraine). *Sustainability (Switzerland)*, 12(21), 8953. <https://doi.org/10.3390/su12218953>.
47. Kogetsidis, H. (2023). Dealing with complexity – the contribution of problem structuring methods to management science. *International Journal of Organizational Analysis*. <https://doi.org/10.1108/IJOA-01-2023-3562>.
48. Kwilinski, A. (2023). E-Commerce and Sustainable Development in the European Union: A Comprehensive Analysis of SDG2, SDG12, and SDG13. *Forum Scientiae Oeconomia*, 11(3), 87-107. [https://doi.org/10.23762/FSO\\_VOL11\\_NO3\\_5](https://doi.org/10.23762/FSO_VOL11_NO3_5).
49. Kwilinski, A., Lyulyov, O., Pimonenko, T. (2023a). Unlocking Sustainable Value through

- Digital Transformation: An Examination of ESG Performance. *Information*, 14(8), 444. <https://doi.org/10.3390/info14080444>.
50. Kwilinski, A., Lyulyov, O., Pimonenko, T. (2023b). Inclusive Economic Growth: Relationship between Energy and Governance Efficiency. *Energies*, 16(6), 2511. <https://doi.org/10.3390/en16062511>.
  51. Kwilinski, A., Lyulyov, O., Pimonenko, T. (2023c). Greenfield Investment as a Catalyst of Green Economic Growth. *Energies*, 16(5), 2372. <https://doi.org/10.3390/en16052372>.
  52. Kwilinski, A., Lyulyov, O., Pimonenko, T. (2023d). Environmental Sustainability within Attaining Sustainable Development Goals: The Role of Digitalization and the Transport Sector. *Sustainability*, 15(14), 11282. <https://doi.org/10.3390/su151411282>.
  53. Kwilinski, A., Lyulyov, O., Pimonenko, T. (2023e). The Effects of Urbanisation on Green Growth within Sustainable Development Goals. *Land*, 12(2), 511. <https://doi.org/10.3390/land12020511>.
  54. Kwilinski, A., Lyulyov, O., Pimonenko, T. (2023f). The Impact of Digital Business on Energy Efficiency in EU Countries. *Information*, 14(9), 480. <https://doi.org/10.3390/info14090480>.
  55. Kwilinski, A., Lyulyov, O., Pimonenko, T. (2023g). Spillover Effects of Green Finance on Attaining Sustainable Development: Spatial Durbin Model. *Computation*, 11(10), 199. <https://doi.org/10.3390/computation11100199>.
  56. Kwilinski, A., Lyulyov, O., Dźwigoł, H., Vakulenko, I., Pimonenko, T. (2022b). Integrative Smart Grids' Assessment System. *Energies*, 15(2), 545. <https://doi.org/10.3390/en15020545>.
  57. Kwilinski, A., Lyulyov, O., Pimonenko, T., Dźwigoł, H., Abazov, R., Pudryk, D. (2022a). International Migration Drivers: Economic, Environmental, Social, and Political Effects. *Sustainability*, 14(11), 6413. <https://doi.org/10.3390/su14116413>.
  58. Kwilinski, A., Vyshnevskiy, O., Dźwigoł, H. (2020). Digitalization of the EU Economies and People at Risk of Poverty or Social Exclusion. *Journal of Risk and Financial Management*, 13(7), 142. <https://doi.org/10.3390/jrfm13070142>.
  59. Maanen, J.V. (1998). Different Strokes: Qualitative Research in the Administrative Science Quarterly from 1956 to 1996. In: J. Van Maanen (Ed.), *Qualitative Studies of Organizations* (p. 158). Thousand Oaks, CA: Sage.
  60. Meißner, M., Oll, J. (2019). The Promise of Eye-Tracking Methodology in Organizational Research: A Taxonomy, Review, and Future Avenues. *Organizational Research Methods*, 22(2), 590–617. <https://doi.org/10.1177/1094428117744882>.
  61. Mintzberg, H. (1979). An Emerging Strategy of "Direct" Research. *Administrative Science Quarterly*, 6(3), 582-589.
  62. Mintzberg, H., Waters, J. (1985). Of Strategies, Deliberate and Emergent. *Strategic Management Journal*, 6(3), 257-272.
  63. Moskalenko, B., Lyulyov, O., Pimonenko, T., Kwilinski, A., Dźwigoł, H. (2022).



- Investment Attractiveness of the Country: Social, Ecological, Economic Dimension. *International Journal of Environment and Pollution*, 69(1-2), 80–98. <https://dx.doi.org/10.1504/IJEP.2021.10050183>.
64. Nelkin, D., Brown, M.S. (1984). *Workers at risk: Voices from the workplace*. Chicago: University of Chicago Press.
65. Oliver, A.L., Ebers, M. (1998). *Networking Network Studies: An Analysis of Conceptual Configurations in the Study of Interorganisational Relationships*. *Organization Studies*, 19, 549-583.
66. Ostasz, L. (1999). *Homo methodicus. Między filozofią, humanistyką i naukami ścisłymi*. Olsztyn: Uniwersytet Warmińsko-Mazurski.
67. Paivio, A., Clark, M., Khan, M. (1998). The Effect of Concreteness and Semantic Relatedness on Composite Imagery Ratings and Cued Recall. *Memory and Cognition*, 16(5), 422-430.
68. Patil, S. (2016). *Aditya: Research Methodology in Social Sciences*. Nipa: New India Publishing Agency.
69. Peffers, K., Tuunanen, T., Rothenberger, M.A., Chatterjee, S. (2007). A Design Science Research Methodology for Information Systems Research. *Journal of Management Information Systems*, 24(3), 45-77, <https://doi.org/10.2753/MIS0742-1222240302>.
70. Raich, S., Birkinshaw, J., Probst, G., Tushman, M. (2009). Organizational Ambidexterity: Balancing Exploitation and Exploration for Sustained Performance. *Organization Science*, 20(4), 685-695.
71. Rajesh, R. (2023). An introduction to grey causal modelling (GCM): applications to manufacturing, supply chains, resilience, and sustainability. *Artificial Intelligence Review*, (56), 6267–6293. <https://doi.org/10.1007/s10462-022-10314-1>.
72. Saxenian, A. (1996). *Regional Culture and Competition in Silicon Valley and Route 128. Second edition*. Cambridge, MA: Harvard University Press.
73. Sieklicki, S., Tanev, S. (2021). From Description to Action: Actor-Network Theory and Innovation Management. *International Journal of Innovation Management*, 25(10), 2140006.
74. Silverman, D. (2008). *Prowadzenie badań jakościowych*. Warsaw: PWN.
75. Strauss, A., Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Second edition. Thousand Oaks, CA: Sage.
76. Suddaby, R. (2006). From the editors: What grounded theory is not? *Academy of Management Journal*, 49(4), 633-642.
77. Sudoł, S. (2011). *Zarządzanie jako dyscyplina naukowa. Charakterystyczne cechy nauk o zarządzaniu*. In: W. Kieżun (Ed.), *Krytycznie i twórczo o zarządzaniu. Wybrane zagadnienia* (p. 115). Warszawa: Oficyna Wolters Kluwer Business.

78. Sułkowski, Ł (2015). Paradygmaty i teorie w naukach o zarządzaniu. In: W. Czakon (Ed.), *Podstawy metodologii badań w naukach o zarządzaniu. Wyd. III rozszerzone i uaktualnione* (pp. 424-446). Warsaw: Oficyna Wydawnicza Wolters Kluwer Business.
79. Sułkowski, Ł. (2013). Paradygmaty nauk o zarządzaniu. *Współczesne zarządzanie [Contemporary Management Quarterly]*, 2, 17-26.
80. Tandukar, S. (2018). *Business Research Methodology*. Munich: Grin Verlag.
81. Tight, M. (2017). *Understanding Case Study Research: Small-scale Research with Meaning*. London: Sage.
82. Trushkina, N., Dźwigoł, H., Serhieieva, O., Shkrygun, Y. (2020). Development of the Logistics 4.0 Concept in the Digital Economy. *Economic Herald of the Donbas*, 4(62), 85-96.
83. Xiang, L., Hou, R. (2023). Research on Innovation Management of Enterprise Supply Chain Digital Platform Based on Blockchain Technology. *Sustainability*, 15(13), 10198. <https://doi.org/10.3390/su151310198>.
84. Yin, R. (1984). *Case Study Research: Design and Methods*. Thousand Oaks, CA: Sage Publications.