

Types of Innovation Outsourcing: A Systemic Perspective

Scientific Papers of the University
of Pardubice, Series D: Faculty of
Economics and Administration
2023, 31(2), 1709.

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DOI: 10.46585/sp31021709
editorial.upce.cz/SciPap

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Abstract

This article puts forward an approach to a systemic understanding of innovation outsourcing types based on the dialectical combination of the general and the specific in outsourcing practice. The study involved synthesis, systematisation, and development of theoretical and applied approaches to identifying types of innovation outsourcing in order to establish a theoretical and methodological foundation for organisations to create their own unique models of innovation outsourcing. The article suggests a classification of innovation outsourcing based on various characteristics, including the nature of the services provided, type of business processes, scope of management function, level of change, nature and organisational form of collaboration, source of resourcing, subjects involved, degree of cooperation, stage of the innovation process, and location of outsourcing service providers. The study demonstrates the cross-functional and multi-faceted nature of outsourcing and the possibilities of various combinations of innovation outsourcing types, which should be considered when developing innovation strategies for organisations. The main purpose of the article is to shape a comprehensive understanding of various issues related to making effective managerial decisions regarding possible optimisation perspectives of innovation activities for economic entities through collaboration with outsourcers, determining the form, nature, terms, scale, depth, and other critical elements of such collaboration, and considering a range of their advantages and limitations.

Keywords

Outsourcing, Innovations, Management, Innovation process, Core competencies, Business process, Outsourcing service provider

JEL Classification

O31, O32, F20

Introduction

Growing focus on achieving organisational goals in a complex competitive environment and intensified integration trends in the global and European economic areas contribute to increased recognition of innovation as one of the major factors for viability and market success. Intensified innovation processes and high competition in knowledge-intensive product markets are characteristic of modern economic development and set high demands for innovation-oriented enterprises in terms of establishing effective mechanisms of innovation management to ensure their competitiveness.

Every open innovation-oriented business demonstrates a certain level of integration into the innovation ecosystem

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as well as availability of internal and external components of the innovation management cycle. Innovation outsourcing, with its strong potential and numerous advantages, can serve as an effective tool for optimising coordination and interaction of the latter. The potential of using outsourcing practices is evidenced by existing trends, including an expected annual growth rate of over 8% in the innovation outsourcing market in 2023 (Innovation outsourcing, 2021). Therefore, incorporation of innovation outsourcing into business strategy and strategic management system shapes new perspectives for innovative development of businesses.

The fundamental principles of researching the concept and characteristics of innovation outsourcing lay within the paradigm of open innovation, according to which, innovation does not necessarily have to happen within the firm and the potential of utilising external sources and advantages for innovation development is growing (Chesbrough, 2003; Nambisan & Sawhney, 2007). As internal innovations account for only 30% of success, and outsourcing practices help firms implement collaborative and open innovations (Chesbrough & Crowther, 2006), the use of innovation outsourcing leads to increased costs but enhances the likelihood of success in future developments. For firms that adopt both innovation and outsourcing, the success rate of future innovations is 49% compared to 8% for those who use outsourcing solely to minimise operational costs. Thus, outsourcing becomes an integral part of a comprehensive strategy for innovation and development (Breunig & Bakhtiari, 2013).

The purpose of this study is to synthesise and systematise approaches to identifying types of innovation outsourcing. The article is aimed at applying the theoretical concept of outsourcing activity in combination with the generalisation of the practical experience of outsourcing companies in the context of studying the variability of innovative outsourcing and further investigating it to establish a solid foundation for managing outsourcing effectively.

Literature Review

Outsourcing involves transferring internal business functions or activities, as well as certain assets of a company, to an external intermediary who provides a specific service for a specified period at an agreed price. It entails purposeful outsourcing of certain business processes and their implementation to other organisations that have relevant expertise, knowledge, resources, and perform better in a specific field than the client organisation, on a basis of contractual arrangements (Ratynsyj, 2018). Outsourcing is a business decision, a business model, a business technology, a type of integration into the business ecosystem, a socio-technical innovation, a new innovative management concept (Saiensus, 2018). Innovation outsourcing is considered as a variety of strategic outsourcing (McKinney, 2022), delegating innovative activities to an external partner... from problem-solving and idea generation to product development and marketing (Innovation outsourcing, n.d.). It is seen as a business strategy in which company management commits a part of innovation management functions to external organisations (Buniak, 2021) or delegates a certain part or the entire innovation process or technology to external teams, ranging from generating ideas for new products or services to developing strategies for implementing ideas into life and preparing them for market as specific products (Trung, 2022). Furthermore, innovation outsourcing extends beyond contracts for one-time projects, basic services, operations, or peripheral activities. It can encompass management, innovation, strategic research, know-how, and intellectual capital (Innovation outsourcing, 2021).

In view of determining developmental potential of innovation outsourcing, the theory of core competencies provides an important insight into the development and protection of business activities that are fundamental and present clear advantages (Prahalad & Hamel, 1994). Core competencies encompass a combination of knowledge related to the formation of competitive advantage, including employee knowledge and skills, technology, integrated knowledge creation and management processes, and associated values and norms (Leonard, 1992). In addition to core competencies (which are supported by specific knowledge or skills, flexible long-term platforms, unique resources in the value chain, areas of company excellence, elements of strategic importance for customers, etc.), it is proposed to outsource other types of activities as well (Quinn & Hilmer, 1994; Saiensus, 2018).

Among the advantages of innovation outsourcing widely investigated in the literature, the following are highlighted: cost reductions; achievement of innovation goals; focus on core competencies; access to new ideas, new market segments, and target audiences, as well as advanced technologies, experienced personnel, and other resources; broader market coverage; shortened innovation cycle and time to market; increased flexibility; using non-conventional approaches to solving various tasks; project parallelisation and risk minimisation; overcoming national and cultural distances. These advantages have been discussed in studies by Breunig & Bakhtiari, 2013; Buniak, 2021; Gallimore, 2022a; Gallimore, 2022b; Gallimore, 2023; Hayler, 2015; Hutareva & Havrylova, 2021; Kehal & Singh, 2006; Patel, 2022; Trung, 2022; Vaxevanoua & Konstantopoulou, 2015; Yeo & Sabori-Deilami, 2017.

Extensive research into innovation outsourcing is combined with identifying risks in achieving set goals (Dilmegani, 2022; Gallimore, 2022a; Gallimore, 2023; Kehal & Singh, 2006; Ratynskyj, 2018; Vaxevanoua & Konstantopoulou, 2015) and exploring scenarios for risk prevention (Rajorshi, 2021; Hutareva & Havrylova, 2021). Another comprehensive study presents analysis into uncertainties, risk detection, risk monitoring, and quality in outsourcing contracts (Chou & Chou, 2011).

Driving forces behind innovation outsourcing, its impact on innovation performance, inventory turnover, profit margin, core competencies, sales effectiveness, employee performance, and learning effects are addressed in a study by Calantone & Stanko, 2007.

With regard to ensuring the effectiveness of innovation outsourcing, the existing literature discusses issues related to the organisation of outsourcing practices in the innovation domain (Gallimore, 2022b; Hayler, 2015; Lynch, 2011; Oshri et al., 2022); managing the innovation outsourcing process (Buniak, 2021; Innovation outsourcing, 2021; Innovation outsourcing, n.d.; Kotovs'ka, Sorokivs'ka & Lutsyiv, 2017; Vaxevanoua & Konstantopoulou, 2015); modelling the innovation optimisation process through outsourcing (Yasnolob, Horb & Radionova, 2018); outsourcing strategies (Kehal & Singh, 2006; Loh, 2005); methodological support for decision-making in outsourcing implementation (Morhulets', Nyshenko & Zinchenko, 2020); identifying success factors in providing outsourcing services and motivations for engaging with their providers (Belderbos, Carree & Lokshin, 2004; Holcomb & Hitt, 2006; Ulrich & Ellison, 2009; Terwiesch & Ulrich, 2008). Specifically, when selecting providers, considerations such as cost, technological capabilities, market, production, and strategy are suggested. A list of success drivers in managing outsourcing innovation projects is suggested by Eppinger & Chitkara, 2006. These drivers include intellectual property protection, preservation of core competencies within the company, management support and prioritisation of innovation diffusion, infrastructure, process and product modularity, structured change management, and are particularly relevant under globalisation trends.

Within the realm of investigating selection of and collaboration with outsourcing service providers, scholarly literature presents a theoretical framework encompassing provider selection criteria and success drivers for managing innovation projects, based on a case study of 31 outsourcing initiatives undertaken by Siemens (Cui et al., 2011). In case when the 'vendor track record' is not available, the key to successful outsourcing collaboration is the alignment between the motivation of the client and the strengths of the provider. It has been demonstrated that the list of success factors for outsourcing includes not only general drivers (such as trust and communication, partner's organisational stability, defined goals) but also specific drivers that depend on the type of providers and technology maturity (Cui et al., 2011).

Innovation outsourcing model based on systematic and comprehensive examination of the management issues related to innovation outsourcing and viewed as an open system comprising interconnected entities and activities that align with the firm's strategy concerning individuals, organisational structures, the external environment, and technologies, and contribute to its effectiveness through innovation is studied by Rehman et al., 2018. The suggested model places efficiency at the core of innovation outsourcing effectiveness, which entails a three-stage process involving informed selection of innovations for outsourcing, deployment (organisational transfer), and implementation (management of external innovations). The author develops a framework of capacities for managing innovation outsourcing which takes into account their significance (i.e., which specific innovation, why, where, to whom, and how it is outsourced) in the context of the mentioned stages.

Types and models of innovation outsourcing are integrated into the overall logic of research on innovation outsourcing. In theory and practice, various combinations of strategic, international, global, offshore, production, project, professional, local, onshore, logistics, marketing, accounting, IT, personnel, business processes, multisourcing, and other types of outsourcing are distinguished (Kehal & Singh, 2006; Loh, 2005; Hutareva & Havrylova, 2021; Lysyuk & Tereshchuk, 2016; Makovoz & Zaytseva, 2021; Saiensus, 2018; Ratynskyj, 2018; Gallimore, 2022b; Aashish, 2023; Different Types of Outsourcing Explained, 2021; Miszewski, 2022; Cruz, 2020; Shalimov, 2016; Time Doctor, 2021).

Methods

The research methodology used in this study is based on a systemic approach to gain a comprehensive understanding of potential perspectives of innovation outsourcing development. The basis of the methodology is the integration of epistemological research approaches: from theory to practice and from practice to theory. The method of systematisation of types of innovative outsourcing according to various classification features should be considered a priority to obtain a holistic, comprehensive idea of possible vectors, and prospects for the practical application of research results in the analysis of the market for outsourcing services, development of a company's outsourcing strategy to optimise the management of innovative activities. The dialectical method helps highlight the correlation, complementarity and mobility of various classification features and characteristics of types of innovative outsourcing, determining evolutionary processes in the practice of modern outsourcing.

To achieve the research objectives the following methods also were applied: scientific description, decomposition, structuring, analysis, and synthesis - for identifying types of innovation outsourcing; abstraction and hypothetico-logical reasoning - for determining criteria for structuring and systematisation innovation outsourcing types; induction and deduction, theoretical generalisation - for defining substantive characteristics of different types of innovation outsourcing to develop the outsourcing management concept, deepen comprehensive understanding of possible alternatives for its development, and devise tools for effective use of its potential competitive advantages.

Results

Today, outsourcing is considered one of the most promising business practices and fields of activity. According to the US Outsourcing Institute, delegating a part of business processes to external providers is inherent in 89% of American companies. In Europe, according to Eurostat analysis, the average outsourcing rate is 83%, with Germany at 87%, France at 88%, and Liechtenstein at 94% (Front Desk Helpers, 2019). Reports on outsourcing development trends indicate its highly dynamic nature. In 2022, the global outsourcing industry reached a turnover of 10 billion dollars. It is expected to reach 20 billion dollars by 2025 and 760 billion dollars by 2027 (Front Desk Helpers, 2023).

Table 1. Types of innovation outsourcing: classification.

No	Criterion	Type
1	nature of services provided	professional outsourcing project outsourcing business process outsourcing
2	business process	IT (digital) outsourcing telecommunications outsourcing human resources outsourcing (HRO) financial and accounting outsourcing marketing outsourcing logistics outsourcing administrative support outsourcing operational outsourcing technological outsourcing manufacturing outsourcing commercial outsourcing legal outsourcing
3	scope of management function	partial outsourcing (elemental, selective, out-tasking) full outsourcing (broad-scale, bundled) shared services outsourcing/managed team outsourcing
4	level of change	tactical outsourcing strategic outsourcing transformational outsourcing transitional outsourcing
5	nature and organisational form of collaboration	contractual outsourcing capital outsourcing joint venturing strategic partnerships (strategic alliances, consortia, etc.) networked outsourcing cooperational outsourcing
6	source of resourcing	external outsourcing shared outsourcing internal outsourcing back sourcing
7	type of funding	bilateral outsourcing multilateral outsourcing multi-sourcing (includes sub-contractual outsourcing, sub-sourcing) crowdsourcing (includes crowdfunding)
8	degree of cooperation	direct outsourcing indirect outsourcing
9	stage or phase of innovation process	outsourcing at stages: fundamental research, applied research, techno-economic development, initial deployment, industrial production, marketing, diffusion, commercialisation of new products and technologies outsourcing at phases: science, technology, production, consumption creative process outsourcing (CPO) knowledge process outsourcing (KPO)
10	location of outsourcing providers	onsite outsourcing (co-sourcing, contracting) onshoring international outsourcing: <ul style="list-style-type: none"> - offshore outsourcing - nearshoring (nearshore, coastal outsourcing) - export outsourcing - international trade outsourcing - transnational outsourcing - global outsourcing reshoring home sourcing

Current realities of the global outsourcing market present a wide range of sectors, forms, and mechanisms through which its potential can be utilised to optimise innovation processes, enhance competitive advantages, and achieve organisational goals. This is reflected in a variety of types of innovation outsourcing. The need to make decisions on what kind of an effective innovation management system to adopt so that it is based on balanced and integrated distribution and execution of functions by internal and external entities in the management process, calls for the creation of a theoretical and methodological foundation meant to explore possible scenarios for taking advantages of outsourcing in innovation activities and developing strategies for its development. The formation of this foundational concept is proposed to be achieved through systematising types of innovation outsourcing based on various criteria (Table 1). The suggested approach to systematisation can be cross utilised for conducting analytical studies on the state and trends of innovation outsourcing, as well as for developing a specific organisational model of innovation outsourcing. The possibility of combining different types of innovation outsourcing from different classification groups proves the multidimensionality and complexity of management issues being explored in this study.

Considerable attention has been given to the study of outsourcing types, which can be viewed through the lens of the nature of services provided. This group should include professional outsourcing and project outsourcing (Petit, 2022). Professional outsourcing is associated with transfer of complex tasks that require specialised expertise, specific training, and appropriate resource provision to an outsourcer. Project outsourcing, which involves transfer of a specific innovation project to an outsourcing provider, is also evolving. Depending on terms of the agreement, aspects such as timelines, supervision, collaboration during the development, implementation, and execution stages, etc. are determined. Special attention should be paid to the most-known traditional type of business process outsourcing (BPO), which involves transfer of certain business processes of executing and managing innovation within a company to an external service provider. It is commonly believed (Gallimore, 2022b; Petit, 2022; Aashish, 2023) that BPO deals with the transfer of repetitive business processes. However, considering specific nature of innovation activities, a broader understanding of possible variations of this type of outsourcing is justified. The range of business processes and the rationale for their outsourcing depend on a specific combination of influencing factors. It can be considered that all the subsequent approaches discussed in this study contribute to a deeper and more explicit understanding of this multi-faceted outsourcing practice.

Complexity and multi-faceted nature of managing innovation within an organisation, its integration into the overall management system, and its close, dynamic, dialectical relationship with other subsystems make the study of innovation outsourcing in terms of business processes ever more relevant. An important direction in streamlining the implementation of innovation processes is the outsourcing of secondary technological processes with continuously changing configurations. In this context, the approach presented below may be seen as a sub-type of business process outsourcing. Within this framework, the following types of outsourcing are proposed to be distinguished: IT outsourcing, HR outsourcing, financial and accounting outsourcing, marketing outsourcing, logistics outsourcing, business process outsourcing, administrative support outsourcing, and others.

One common type of innovation outsourcing in this type of class is IT (digital) outsourcing, which is ubiquitously associated with the global rise of information technology and rapid development of digitalisation and digitisation of business processes. The analysis of Total Contract Value (TCV) in business process outsourcing contracts reveals a significant upward trend in digital outsourcing services. Over a five-year period from 2016 to 2020, the share of digital services increased from 30% to 70% of TCV, and the number of new contracts with a digital component steadily rose to nearly 50% (Bhatnagar et al., 2022). IT outsourcing may include transfer of processes related to design, development, implementation, support, and maintenance of a company's IT infrastructure (web development, software and application development, IT engineering, multi-level technical support). According to experts, IT outsourcing can lead to cost savings of up to 35%. In terms of demand for professionals in the outsourcing industry in the coming years, software developers, cybersecurity experts, SMM managers, content writers, web developers, graphic designers, UX/UI designers, AR designers, and others are expected to be highly sought after (Front Desk Helpers, 2019).

Marketing support functions in managing organisational innovation processes can be performed through marketing outsourcing. Depending on a complex set of factors, marketing outsourcing may involve transferring all or some of the following (Loaisa, 2022): development and implementation of marketing strategy, setting up CRM and marketing platforms, sales and customer acquisition, branding and design (positioning, buyer personas, competitive analysis), digital marketing (adaptation, leads support, reporting, mailshots, landing pages, calls to action), analytics (sales funnel, traffic, conversions, reporting), website design (SEO, templates, maintenance, redesign), content creation (research, videos, infographics), public relations, and more.

Administrative outsourcing can also be seen as a distinct type of outsourcing. There is certain ambiguity in its definition in scholarly publications, with some considering it in a broader sense as synonymous with business process outsourcing. In a narrow sense, administrative outsourcing refers to transfer of administrative support business processes to an outsourcing provider (Outsourcing business solutions, 2022). These processes include database formation and management, online research to meet administrative requirements, hiring virtual administrators, time planning and management, dispatch services, administrative support for communication,

including outsourced call centers. In this context, administrative outsourcing serves as an alternative to the labour-intensive and resource-intensive process of hiring administrative personnel within a company. It can be implemented through dedicated administrative support by specific personnel on a permanent basis or through floating (variable) administrative support when performing a selected set of administrative functions with external personnel on roster (Hreha, 2021). Similar duality in interpretation applies to operational outsourcing: from considering it synonymous to business process outsourcing based on content characteristics to understanding it as the transfer of specific operational processes (such as equipment repair or maintenance) to outsourcing providers (Key discovery consulting, 2022).

Recently, there has been a growing trend in considering telecom outsourcing as a distinct category, which overlaps with the types of outsourcing in terms of services provided. Telecom outsourcing (Petit, 2022) involves delegating management of the telecommunications infrastructure to an outsourcing provider, including services such as network design, implementation, and maintenance.

Human resources outsourcing (HRO), also known as out staffing or professional employment outsourcing (PEO), is associated with transferring execution of certain or all HR management functions to a service provider. These functions include (Freedman, 2023; Hutareva & Havrylova, 2021; Makovoz & Zaytseva, 2021): development of HR strategies, staff recruitment and selection, payroll, managing employee compensation, ensuring compliance with labour laws, regulation of employee relations, provision of specialised consulting services, performance and risk management, etc. Talent acquisition, particularly for innovative companies, holds special importance. This involves attracting employees who possess competitive advantages in terms of human capital to enhance the organisation's innovation potential.

Financial and accounting outsourcing allows for cost savings and alleviates burdens associated with independent finance management and proper accounting. This includes outsourcing functions such as cash flow management, accounting operations, handling banking transactions, taxation, issuing primary documents to counterparts, business planning, auditing, financial analysis, and more.

Currently there is a growing trend in demand for logistics outsourcing (3PLs), which already accounts for 10.2% of total logistics expenditures worldwide (Armstrong, 2021). Typically, the outsourcing provider assumes the responsibilities of supply chain functions, including transportation, warehousing, packaging, and/or product delivery for companies, from essential resources to the innovative end-product. These functions are performed by external providers in various combinations and specifications. For example, in logistics outsourcing, the following types are commonly identified, encompassing the majority of supply chain functions (Armstrong, 2021): DCC - Dedicated Contract Carriage (providing and managing a dedicated transportation fleet), DTM - Dedicated Transportation Management (combined with brokerage services), ITM - International Transportation Management (usually provided together with freight forwarding services), VAWD - Value-Added Warehousing and Distribution (providing long-term contract warehousing or operating a distribution center with a range of additional services).

Some other common types of outsourcing include (Miszewski, 2022; Aashish, 2023; Hutareva & Havrylova, 2021; Makovoz & Zaytseva, 2021): business process outsourcing (transfer of current operational services to external performers); technological outsourcing (transfer of certain technological processes, certain stages of the technological cycle); legal process outsourcing (including protection of corporate intellectual property rights); resource outsourcing (engaging necessary resources from external sources instead of internal ones); manufacturing outsourcing (transfer, based on division of labour and functional specialisation, of primary/auxiliary production of goods/components with full or partial execution of specified tasks, ensuring compliance with all required quality standards and specifications).

The cross-functional aspect of outsourcing is manifested through the scope of management function. In this classification group, partial (elemental, selective, or task-based) and complete (broad-scale, bundled) outsourcing are commonly distinguished. Partial outsourcing involves outsourcing specific tasks within certain business processes/management functions related to innovation processes. A subtype of partial outsourcing is known as small sourcing (Key discovery consulting, 2022), which is used for executing tasks within a specific innovation project. Broad-scale outsourcing entails transfer of the entire business process or function to a provider, while the number of functions outsourced in each specific case is determined based on a range of feasibility factors. Full outsourcing of innovation projects is also possible.

Distinction between partial and complete outsourcing (Virtual assistant reviewer, 2023; Lysyuk & Tereshchuk, 2016) reflects distribution of responsibilities and risks between the participants, and the level of control over the implementation of innovation processes by the client. Specifically, in the case of out-tasking, the client selects a list of specific tasks (based on core competencies of their personnel), often fewer complex ones, to be transferred to external providers, while retaining control over the execution of the function or business process as a whole. Intermediate tasks performed within out-tasking are integrated into the overall management structure (function, business process, innovation project). Out-tasking allows innovative companies to adapt flexibly and timely to a rapidly changing environment, respond to challenges in supplier relationships, coordinate the timing and nature of cooperation, and use this cooperation to explore ideas for new projects and opportunities, as well as to address

new complex, non-conventional tasks. To some extent, special outsourcing (Petit, 2022) can be considered a subtype of partial outsourcing, where the outsourcing provider carries out specific business processes on behalf of the client. Naturally, this type of collaboration is accompanied by reputational risks, it is largely dependent on control from the client, and requires a sufficient degree of trust in the outsourcing provider.

In case of full outsourcing, the responsibility for implementing business function or stage of the innovation process (with a fixed commitment to scale up or down within an acceptable range) is entirely placed on the service provider. This entails increased risks, particularly related to lack of intermediate control and testing, and emphasises the importance of careful selection of service provider. Under certain conditions, this issue becomes particularly significant, especially when a critical share of management functions related to innovation processes is outsourced, which may pose a threat to the overall autonomy of the client in managing the company. In such borderline outsourcing arrangements, it is essential to clearly define the boundaries of retaining control within the client's organisation. Typically, full outsourcing, under specific conditions, allows for reducing the number of management levels and simplifying planning processes. An intermediate nature between partial and full outsourcing is observed in shared services outsourcing or managed team outsourcing (Cruz, 2020), which involves distribution of responsibility between the parties involved in the agreement: service provider is responsible for delivering services in an economically efficient manner, while the client is responsible for managing these services.

This approach to studying innovation outsourcing has cross-cutting nature and is integrated with researching its types based on other criteria. Specifically, it is closely related to characterising outsourcing in terms of the level of change. This involves a certain overlap of partial and full outsourcing with tactical and strategic outsourcing (Grossman & Helpman, 2005; Bartel et al., 2005; Brown & Wilson, 2007; Linder, 2004; Petit, 2022; Smith, 2021), which are considered in terms of changes in functions or business processes when they are outsourced, particularly in the context of innovation. Tactical outsourcing, also known as traditional outsourcing, involves adapting service provider to existing solutions for the company's processes and functions and is characterised by predictable outcomes. It is focused on addressing specific operational, often auxiliary tasks in the short-term perspective, normally accompanied with clear definition, regulation, and control of their scope, agreed quality levels with limited possibilities for making changes in the service delivery process, and, consequently, less flexibility in responding to environmental challenges.

When it comes to strategic outsourcing, its important prerequisite involves building a value chain in such a way that all stages of business processes are provided with strategically important resources (Petit, 2022), ensuring attainment of strategic decisions related to competitiveness and optimisation based on long-term partnership with the outsourcing company. Strategic outsourcing implies transferring full business process or set of processes or full cycle to the provider, as well as delegating management and responsibility for their efficiency, accompanied by extensive opportunities for making management decisions and introducing changes to the business processes.

In this context, strategic outsourcing is closely related to transformational outsourcing (CEO Pedia, 2022). In recent study, Petit (2022) views transformational outsourcing as the evolutionary perspective of the development of outsourcing after tactical (1980s) and strategic (1990s-2000s) outsourcing, which logically stems from the development and growth of innovation economy.

Transformational outsourcing is the most advanced form of collaboration with an outsourcing partner. Services provided involve radical transformation of how outsourced tasks are implemented, leading to significant improvement in business processes of client company (CEO Pedia, 2022; Lysyuk & Tereshchuk, 2016). In other words, transformational outsourcing not only enhances the efficiency of specific processes within the innovation cycle through continuous innovative changes implemented by the provider, but also exerts a coevolutionary impact on client's innovation management system, often accompanied by reengineering of innovation-related business processes. This allows for the revitalisation or restructuring of previously ineffective business process, acquisition of new knowledge and competencies. Naturally, the initiation, potential, scale, and level of such transformations are rooted in the philosophy, mission, strategy, and model of cooperation with the outsourcing partner, company's willingness and ability to leverage external drivers of development. These are supported by resource capacity, readiness to take measured risks, and a balanced approach towards selecting outsourcing provider for strategic partnership. Special attention should be paid to the latter aspect, considering the initial requirements regarding the ability of the outsourcing partner to keep pace with the client's goals, adapt their own business concept to client's strategic demands, continuously improve transferred business processes, and demonstrate flexible and swift responsiveness to environmental changes. It is also important to consider risks normally associated with strategic partnerships, such as intellectual property rights compliance, trust, and transparency.

In the context of investigating levels of providers' involvement in clients' transformational processes, it is relevant to mention the practice of transitional outsourcing. Its application varies, and the content is determined by client's decision regarding the subject of outsourcing: whether the solutions, business processes, elements, or subsystems to be reorganised or replaced are transferred to the outsourcer by client's internal efforts during the reorganisation, or the tasks of implementing the corresponding transitions to new models are entrusted to the outsourcer.

With this research perspective, it is crucial to consider innovative outsourcing types in an integrated manner based

on nature and organisational form of cooperation. This criterion, when examining types of outsourcing, emphasises the level of market interaction between the parties involved. In this dimension, contract outsourcing, capital outsourcing, joint ventures, and various forms of strategic partnership are commonly distinguished (CEO Pedia, 2022; Innovation Outsourcing, n.d.). Unlike the more familiar and traditional contract outsourcing, which is based on classical market mechanisms of cooperation and the autonomy of the parties involved, capital outsourcing is characterised by high relationship stability and partner interdependence. Capital outsourcing involves setting up a new business entity (subsidiary) where the parent company holds the majority of shares (CEO Pedia, 2022) allowing for close cooperation, resource support (financial, personnel, informational, etc.), and proper control over the quality of performing the transferred functions/business processes in innovation management. Similar options are involved when spin-offs, spinouts, and venture companies are set up. However, one should consider certain reservations related to dominating position of parent company and artificial limitation of alternative outsourcing proposals. Promising forms of close long-term cooperation include formation of joint ventures, strategic alliances, consortia, and other forms of strategic partnership to allocate costs and risks and obtain synergistic effects in implementing innovations, provided that the cooperation model is well-structured, and the interests are aligned. In this context, networked (i.e. MNCs, business networks) and cooperative formats of innovation outsourcing can be discussed.

Organisational aspect in the study of innovation outsourcing types is manifested in categorising them by source of resourcing. In terms of resource provision for specific functions or processes of innovation management in the client company, in addition to the previously discussed classical external and joint outsourcing, internal outsourcing (insourcing) stands out. Insourcing (Kenton, 2023; Murphy, 2021; Beers, 2022; Saiensus, 2018) focuses on optimising innovation processes by mobilising internal capacities through creation of a specialised new functional unit to provide relevant services or their transfer (e.g., on competitive basis) to another department within the company, normally on a contractual basis. By doing so, foundations for positive and efficient transformation of such services are established. Insourcing provides greater control over decision-making, timelines, and cost of staff training. It is used when institutional knowledge of company employees, restrictions of access to commercial secrets, and other organisational changes constitute significant factors. In the management context, insourcing refers to functions that could be outsourced but remain within the company for specific reasons. Flexibility in the management process is often manifested in use of back sourcing (Key discovery consulting, 2022), i.e. the return of tasks, processes, and functions previously outsourced for internal execution. Reasons for this may include issues in the relationship with the outsourcing provider, structural obstacles (including unrealistic goal setting), internal and external organisational changes. These, for instance, can be driven by changes in business dynamics, corporate outsourcing strategies, or business philosophy. Additionally, in a strategic sense, back sourcing provides an opportunity to regain responsibility and control, particularly over improved outsourced business processes or innovation management functions, and to achieve synergy by combining internal and externally sourced knowledge, technologies, and know-hows to optimise the management process. An important aspect of considering this dimension of innovation outsourcing is its dialectical, dynamic, and transformative nature, which manifests in the possibilities of combined outsourcing - using various forms of outsourcing within innovation-driven company (sequential evolutionary/hybrid, combined) depending on the combination of influencing factors.

In the management context, distinction of outsourcing types based on subjects becomes of significant importance, reflecting the degree of complexity in partner cooperation and interest coordination, and considering a range of factors in constructing specific cooperation models. These factors may include company's business and innovation strategies, its economic potential, intellectual capital, number of management functions to be outsourced to external contractors, commercial potential of the innovation portfolio, scale of innovation activity, and willingness to diversify innovation risks. In addition to bilateral outsourcing, this approach distinguishes between numerous variations of engaging multiple outsourcers. One such variation is referred to as multi-sourcing (Key discovery consulting, 2022; Gallimore, 2022b). Collaboration with more than two service providers can be established based on agreements and the exercise of managerial control by the client. Use of different external participants (according to their competencies) can take place at various stages of the innovation project or the company's innovation management process. For example, this type of cooperation is typical during the production stage of a knowledge-intensive product involving a complex and specialised technological process. Subcontracting outsourcing, or sub-outsourcing, is suggested as one of the variations of multi-sourcing. In this case, coordination, and control over the activities of subcontracted outsourcers are entrusted to a company acting as general contractor for the execution of specific management functions or services. For instance, this practice may involve transfer of product diffusion functions through sale of sublicenses by exclusive licensee to third parties, enabling use of intellectual property rights for products that have significant potential for cross-sectoral and cross-industry application, facilitating dissemination of relevant innovations and their commercial payback.

With increasing importance of innovation as an important competitiveness factor and intensification of innovation processes, the significance of external sources of innovative ideas, operational efficiency, and problem-solving in innovation is highlighted. This leads to a growing attention to crowdsourcing alongside new opportunities presented by information and communication technologies. Crowdsourcing (Howe, 2006; Payne et al., 2008; White, 2019;

Hargrave, 2022) is the practice of utilising a large group of people from different countries to achieve a desired outcome (such as completing specific micro-tasks within a large-scale innovation project) by harnessing a wide range of their ideas, knowledge, skills, experience, collaborative creativity, and capital in online environment on various crowdsourcing platforms and microsites. This enables acceleration and re-evaluation of the innovation process, cost reduction, fostering loyalty and feedback from consumers by involving them in specific stages, and more. Yet, crowdsourcing is accompanied by several managerial challenges related to intellectual property rights protection and complexity of selecting promising alternatives from great number of ideas. In the context of providing financial support for innovation projects, crowdfunding emerges as a type of crowdsourcing. Crowdfunding platforms such as Kickstarter and Indiegogo serve as hubs for raising financial resources for innovative projects and start-ups.

In addition to the above approach, types of outsourcing can be distinguished based on the degree of interaction, resulting in the differentiation of direct and indirect outsourcing (Ratynskij, 2018). Direct outsourcing takes place when innovation company, as a client, directly collaborates with an outsourcer, who executes specific business processes/management functions related to innovation, with defined control mechanisms. Indirect outsourcing involves execution of designated functions by third-party subcontractors under subcontracting conditions, where the general contractor/provider, responsible for their efficiency, engages these subcontractors as the suppliers of end services.

Furthermore, specific nature of innovation outsourcing practices can be better understood by categorising its types according to the stages (or phases) of the innovation process. Drawing on the traditional theoretical foundations of innovation theory, outsourcing can be used at the following stages: fundamental and applied research, technological and economic development, initial implementation, industrial production, marketing, diffusion, and delivering new products and technologies to consumers. Additionally, outsourcing can be discussed in the context of phases such as science, technology, production, and consumption, with various options for specification and potential combinations. Development of the knowledge economy and increasing non-linearity of innovation processes are dialectically linked to dynamic proliferation of creative process outsourcing (CPO) and knowledge process outsourcing (KPO). These types can have a cross-cutting nature and can be implemented at different stages of the innovation process. CPO (Tupas, 2020) involves transferring all or part of creative and innovative tasks to providers. It often becomes a driver for re-evaluating the directions of further innovation development and is an integral component of the creative economy. KPO (Murphy, 2021; Petit, 2022; Aashish, 2023) is associated with obtaining industry-specific knowledge, expertise, and experience from external highly qualified and skilled experts in complex areas. Examples of its manifestations include innovation lab models (established and managed through contracts with providers) and innovation consulting (Innovation Outsourcing, n.d.), through which innovative companies gain access to expertise and, potentially, equipment.

Emphasis on the location of outsourcing service providers is considered when the distinction is made between "on-site" outsourcing, local (onshoring), and international outsourcing.

'On-site outsourcing' (Cruz, 2020) involves provision of outsourcing services within the company in collaboration with their own employees. This approach allows for increased project management and synergistic effects from the interaction with externally contracted experts possessing required competencies. In this context, 'on-site' outsourcing can be considered as co-sourcing (combining the use of external and internal resources to achieve specific business goals), contracting (obtaining services from a third-party organization or individual for a fee and usually for a certain period) (Chongvilaivan et al., 2009; Grossman & Helpman, 2005), or a form of human resource outsourcing.

In the case of local outsourcing, when choosing an outsourcing provider within the same country, several potential advantages arise, including greater control and ability to address unexpected problems associated with certain uncertainties in the results. Other advantages may include a shared mindset, language, time zone, and accessibility of local teams (Shalimov, 2016). Within local outsourcing, the location of providers can be limited to a single location or cover different regions of the country depending on the specific needs and implementation requirements of innovation projects.

International outsourcing is associated with transfer of company's functions and management of innovation activities beyond their own country. Variability of such scenarios, depending on different factors, gives rise to various forms of international innovation outsourcing. Primarily, this refers to offshore outsourcing and nearshore outsourcing (Grossman & Helpman, 2005; Cruz, 2020; Shalimov, 2016; Key discovery consulting, 2022; Gallimore, 2022b; Rumyantseva, 2023; Saiensus, 2018). Offshore outsourcing typically involves relocation of functions and business processes from the company's country of origin to a distant country to reduce costs through lower labour expenses, use global skills and infrastructure offered by other countries, enter new markets, and ensure uninterrupted 24/7 innovation processes. However, it is important to consider risks associated with ensuring service quality, communication difficulties (language, cultural differences), and complexity of oversight. Nearshore outsourcing, on the other hand, offers opportunities to address these issues by selecting an outsourcing partner in a country close to the home country, normally in the same time zone. Emphasis is placed on preserving business

functionality of the innovation process in the same geographic region, but not in the same country. It is believed that nearshore outsourcing allows for taking advantages of both onshore and offshore outsourcing, such as proximity, minimal time zone difference, cultural and linguistic similarities, better control (including over the innovation project development process), higher level of team interaction and responsiveness to problem situations, moderate pay, developed creative and innovative thinking skills, cost and time savings, specialisation opportunities, availability of a wide range of outsourcing services and alternative proposals (Shalimov, 2016).

In addition to classical types of outsourcing discussed above, the evolutionary aspect of this research perspective should be mentioned. Recently, there has been a growing trend of reshoring, which refers to the process of reversing the transfer of certain functions of innovation execution and management from outsourcing providers in other countries back to the home country i.e., onshore outsourcing. This is justified by cost reduction, inventory reduction, time savings, distance reduction, and facilitation of intellectual property protection, combined with the experience gained from external outsourcing (Reshoring Institute, 2021; Gallimore, 2022b). As a response to the challenges of the time, home-based outsourcing (Key discovery consulting, 2022) with a remote online service provision mode by outsourcing providers from their homes or external offices is gaining popularity. It can have a cross-cutting nature and be applied to various types of innovation outsourcing, both within this classification group and in other approaches, including as a variation of IT outsourcing.

Moreover, this evolutionary trend is apparent in a variety of types of international outsourcing, including export outsourcing, foreign economic outsourcing (transferring certain functions to one or several countries while maintaining the priority of performing innovation management functions within the country), transnational outsourcing (involving subsidiaries of a transnational network, including subcontractors, in outsourcing practices), and global outsourcing (adopting a supranational approach to utilising worldwide opportunities for innovation production and management, thus gaining competitive advantage).

Discussion

Classifications explored in this study do not exhaust all possible scenarios of cooperation between innovation-driven companies and outsourcing providers. While researching this broad area, new approaches to the study of types of innovation outsourcing appear which confirms the complexity and multi-faceted nature of outsourcing practice and highlights the need for in-depth exploration of related innovation management challenges.

Possible new perspectives for research in innovation outsourcing may include examining their types based on pricing models, such as fixed price (FP), time and materials (T&M), incentive-based, shared risk and reward (Cruz, 2020); the profile of business processes (outsourcing core or non-core business processes); duration (short-term, medium-term, long-term); frequency (one-time, repetitive, continuous); stages of the innovation management process in the company; industry sectors, and the geography of outsourcing services (which is promising in analysing the industrial and geographical structure of the outsourcing market).

Among perspectives for further exploration in this area, it could be valuable to deepen investigation into the practice of implementing different types of innovation outsourcing within defined classification groups, use systematisation of these types to perform analysis of the outsourcing market, identify trends in development, consider the identified approaches when addressing issues of justifying innovation outsourcing strategies, mechanisms for selecting outsourcing service providers, and more.

Conclusion

Despite the wide range of studies into researched topic in scholarly literature, the focus on improved quality of management decisions in innovation outsourcing requires further comprehensive and systemic study of a variety of perspectives in using its various types, giving a careful consideration of their opportunities and caveats. The suggested systemic approach to innovation outsourcing types based on different classification criteria aims to shape this kind of comprehensive understanding of the issues related to making managerial decisions and exploring potential perspectives for optimising innovation through collaboration with outsourcing providers. It involves determining the forms, nature, terms, scales, depth, and other important aspects of this interaction.

Selecting format for engaging external participants in the execution of innovation management functions or processes should be seen from the perspective of integrating them into the company's management system, while considering the company's goals, general and innovation strategies, and should aim to ensure balance between internal and external components of the innovation management cycle, as well as effective utilisation of all factors of innovation development.

The conducted research demonstrates that it might be impractical to straightforwardly separate different types of innovation outsourcing as there are multiple overlaps between types falling into different classification groups, and this reflects their dialectical, cross-cutting, and multifaceted nature. Nevertheless, the proposed criteria-based distinction helps identify focal points for various combinations of outsourcing practices, which can serve as methodological guidelines for making managerial decisions in shaping a unique company's outsourcing model to

streamline its innovation potential.

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