
Developing intellectual capital in the context of improving project management processes

Kształtowanie kapitału intelektualnego w aspekcie usprawniania procesów zarządzania projektami

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Abstract:

Research objectives and hypothesis/research questions

Indicating the role and methods of developing intellectual capital in terms of increasing the effectiveness and efficiency of project implementation.

Research methods

A literature review and preliminary results of the author.

Main results

Intellectual capital has become a resource that supports both the personal development of the project professional and the strategic goals of a modern organization.

Implications for theory and practice

Attributes such as time, budget, resource availability, and above all competencies are becoming increasingly important; against this background, intellectual capital plays an integrating role and helps broaden knowledge within the organization throughout the entire project life cycle. The need to treat intellectual capital as a strategic project resource and to consciously integrate it within the enterprise as part of modern project management processes was also emphasized.

Keywords:

intellectual capital, human capital, organizational capital, market capital, project management

Abstrakt:***Cel badań i hipotezy/pytania badawcze***

Wskazanie roli i metod rozwijania kapitału intelektualnego w aspekcie zwiększenia skuteczności i efektywności realizacji projektów.

Metody badawcze

Studium literaturowe oraz wstępne wyniki badań własnych.

Główne wyniki

Kapitał intelektualny stał się zasobem wspierającym zarówno rozwój osobisty projektanta, jak i cele strategiczne współczesnej organizacji.

Implikacje dla teorii i praktyki

Coraz ważniejsze stają się atrybuty, takie jak czas, budżet, dostępność zasobów, a przede wszystkim kompetencje, na których tle kapitał intelektualny pełni rolę integrującą oraz poszerzającą wiedzę w organizacji podczas pełnego cyklu życia projektu oraz podkreśla konieczność traktowania kapitału intelektualnego jako strategicznego zasobu projektowego i jego świadomej integracji w przedsiębiorstwie w procesach nowoczesnego zarządzania projektami.

Słowa kluczowe:

kapitał intelektualny, kapitał ludzki, kapitał organizacyjny, kapitał rynkowy, zarządzanie projektami

Introduction

The contemporary era is characterized by a high pace of technological change, in which knowledge and its continuous updating in response to dynamic market shifts within a given field, at the national level, and globally constitutes a key resource for modern organizations, both in the design and implementation of products and services and in supporting processes such as information flow and logistics. Increasing importance is therefore placed on efficient knowledge management, understood as the acquisition, analysis, processing, and practical application of knowledge, which requires continuous improvement of activities as well as the development of employees' competences. From this perspective, knowledge and competences form the foundation of intangible resources and, consequently, intellectual capital, which can enhance the improvement of project management processes (Mantorska, 2020, pp. 61-62). An organization's competitive advantage is increasingly less likely to rest solely on financial, infrastructural, or technological capabilities. More and more often, advantage is determined by intangible factors and resources such as knowledge, competences (including digital competences (Zaskórski, Woźniak, Łukasik, 2025, pp. 69-85)), relationships, and crucially ability to continuously develop them and to incorporate this process into the set of priority tasks of a twenty-first-century organization.

Intellectual capital and its role become particularly evident in organizations that focus their activities on innovation and projects. For these organizations, intellectual capital is a key value that distinguishes them within their environment, especially under conditions of high uncertainty. Supporting decision-making processes with an

appropriate level of intellectual capital increases operational flexibility and enables rapid responses to a changing environment through innovativeness, experience, internal and external relationships, and the ability to adapt and respond to events in the environment. As a result, intellectual capital is not only a supporting resource, but a tangible component of the potential of modern organizations and a key to building stable development.

The aim of this article is to identify the fundamental methods and models for shaping intellectual capital as a tool intended to improve project management processes. Both the academic literature and professional practice have developed numerous approaches and models for building intellectual capital within an organization, such as competence management, the creation of development pathways, or mentoring. These approaches often rely on internal processes and artefacts such as knowledge repositories, internal standards, or management methodologies, but also on relationships with the external environment highlighting, in particular, cooperation with clients and external partners. As a result, by leveraging both internal and external dimensions, organizations can develop a comprehensive set of requirements and capabilities that shape intellectual capital, with particular emphasis on tangible benefits in the area of project management. The entire article is framed by the hypothesis that there is a need to treat intellectual capital as a strategic project resource and to consciously integrate it within the enterprise as part of modern project management processes. To verify this hypothesis, a literature review and preliminary results of the authors' own research were used; these confirmed that intellectual capital is becoming a resource that supports both the personal development of the project professional and the strategic objectives of a modern organization.

The article presents both existing models and methods for shaping intellectual capital and their significance in strengthening execution capacity in the processes of designing and managing projects, with an indication of practical implications for the business environment. The analysis provides both a theoretical perspective and references to business practice, which makes it possible to formulate conclusions and assumptions for project management improvement processes based on both of these approaches.

1. Project and the project management cycle

In the literature, a project is defined primarily as a temporary undertaking aimed at achieving a specified objective, with the intention of delivering a new solution or, more broadly in systemic terms, a product. Among the definitions found in the literature, various approaches to the concept of a project can be identified, including:

- The essence of every project lies in its innovative nature and its ability to introduce new, unique solutions; therefore, projects should involve activities that have not previously occurred in a similar form and on a similar scale,

which precludes routine activities from being regarded as projects (Zaskórski, Woźniak, Szwarc et al., 2025, p. 20);

- A project should be treated as an activity with a clearly defined objective, culminating in a final outcome. It is usually described by attributes such as cost, schedule, scope, resources, and performance. To achieve the intended objective, an ordered sequence of activities must be carried out – estimated and planned in advance and implemented at a specified level of quality. Each project defines an overarching objective as well as specific objectives that translate into concrete tasks and should be expressed in measurable results (Łada, Kozarkiewicz, 2010);
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- According to ISO 21502:2020, a project is a temporary endeavour organized to deliver specified deliverables and outputs that enable the achievement of outcomes and benefits for an organization and its stakeholders. This definition also highlights key project characteristics such as temporariness, profile (direction of change) and scope, uniqueness, team member roles, and strategic alignment (ISO 21502, 2021).

In practice, the project management process already at the project initiation stage is based on a clearly defined objective and scope, the established roles of stakeholders, and the framework for achieving success, because the failure to define these elements is one of the main causes of project failures (Kerzner, 2020, p. 89).

The project life cycle can be understood as an ordered sequence of phases through which a project passes – from the moment the need to undertake a given project is recognized until its closure. In the classical approach, the project life cycle (see Fig. 1) includes (Zaskórski, Woźniak, Szwarc et al., 2025, p. 33):

- Initiation, commencing work after first recognizing the need to carry out a given undertaking and determining what the new project is, or defining a new (subsequent) stage of an already ongoing project, once formal permits and approvals to launch the project have been obtained;
- Planning, usually understood as defining and refining the scope, as well as detailing and evaluating project objectives by identifying the tasks necessary to achieve them, preparing an activity schedule, allocating resources, and selecting the best approach for project delivery;
- Execution (main part of project), the phase of carrying out the previously planned activities in accordance with the adopted schedule, while continuously ensuring that value and quality criteria are met;

- Monitoring and control, the ongoing tracking of progress during execution with regard to potential deviations, responding to any errors, and implementing corrective actions and justified changes;
- Closure, completing all project work, i.e., formally closing the project and handing over the results to the recipient, as well as organizing and archiving all documentation related to the entire project.

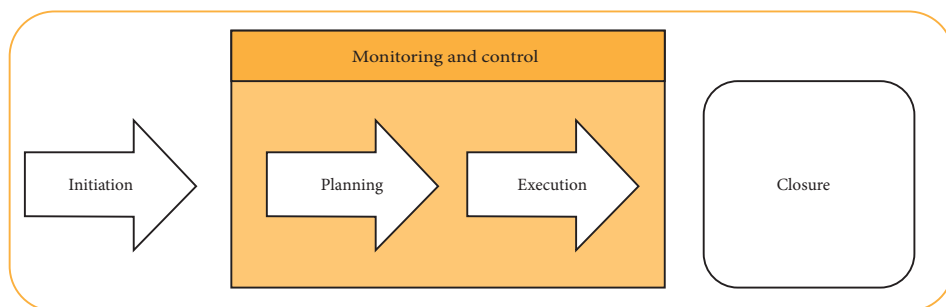


Fig. 1. Project management cycle

Source: own elaboration based on: Zaskórski, Woźniak, Szwarc et al., 2025

Effective management of the project life cycle requires the close integration of three key areas (Kerzner, 2020, pp. 215-217):

- Scope management – ensuring control so that the project delivers the previously defined results;
- Time management – planning and monitoring the project schedule, e.g., using graphical techniques such as the Gantt chart;
- Cost management – continuously monitoring the implementation of the project budget and controlling project costs through activities such as budgeting, expenditure control, or financial variance analysis.

In general, a project can therefore be regarded as a temporary, results-oriented undertaking that leads to the creation of a unique product. The literature emphasizes its innovative nature, a real (measurable/specific) objective, and the need for continuous monitoring of resource consumption as well as ongoing control of outcomes. The effectiveness of project delivery largely depends on the prior, appropriate definition of key attributes such as the objective, scope, evaluation criteria, and target stakeholders. The project life cycle proceeds through established phases, with a particular emphasis on the careful preparation of data for planning and on the planning phase itself. Execution, together with its continuous monitoring and control of the design process, determines effective project management, especially through the integration of scope, time, and cost management which ensures project coherence and the achievement of the intended results.

2. Project resources and their constraints

Project resources (see Table 1) comprise the entirety of means necessary to produce the final product or outcome of a project, understood as all resources required to achieve project objectives, including personnel, equipment, materials, technologies and management methodologies, as well as time and budget. The structure of project resources necessitates highlighting in project repositories such components as: people and their competences, financial resources, time, materials, project infrastructure, knowledge, technologies, and the capabilities/potential of the organization as a whole. Their availability and quality determine the soundness of both the high-level and detailed project plans, including the schedule for implementing individual project stages, taking into account ongoing costs and the associated expected quality of the final product. Effective management of project resources is one of the key factors in the success of the entire project.

Table 1. Types of resources used to implement the project

Type of project resources	Examples of resources
Financial resources	Organization's budget, grants, customer prepayments
Human resources	Project team, analysts, technicians, controllers, stakeholders
Technical resources	IT equipment, software and licenses, tools supporting DevOps and management processes, production devices, laboratories
Material and energy resources	Materials and semi-finished products, technical components, consumables, fuels and energy carriers
Other resources	Internal data and information, intellectual property, market and brand access, project management methodologies

Source: own elaboration based on: Wirkus, Roszkowski, Dostatni et al., 2014

The primary challenge faced by project-based organizations in the area of project resources is to accurately determine the resource requirements for a project. The activities that support resource planning include (Trocki, Bukłaha, Grucza, 2013, pp. 190-199):

- Estimating resource requirements for individual project phases and the aggregate needs for the entire project, in relation to the project budget and implementation schedule;
- Verifying the feasibility of acquiring resources, both within the organization and from its external environment;
- Analyzing how total resource demand changes over time and whether the organization is able to face challenges;
- Adjusting the project schedule to level and distribute the demand for specific resources over time;

- Final approval of the approach to resource acquisition and their use within the project.

Key project constraints result primarily from limited availability, inefficient planning, or competition between different project solutions within the organization and its environment. The main types of project constraints include scope, time, budget, quality, and project risk constraints. Constraints related to human resources and finances are particularly significant because they determine project value and have the greatest impact on delivery time. It is often emphasized that organizations have more ideas for projects and their scope than for the resources that would enable timely delivery, which translates into inadequate resources and can result in overloaded project teams, delays, and reduced quality. To avoid resource problems and manage resource constraints effectively, project organizations should implement project portfolio management methodologies, use scoring models to evaluate projects, and strive to integrate organizational strategic objectives with project plans. It can also be important to use tools for monitoring resources, enabling rapid responses when resource availability is insufficient. Overall, this leads to the conclusion that project success depends not only on the idea or scope but also on the organization's ability to consciously manage resource constraints and account for them already in the project delivery plan.

3. The essence of intellectual capital as a project resource

Intellectual capital is currently considered one of the most important and key resources of any organization, although it is not always recognized. Today, intellectual capital – which brings knowledge, competencies, creativity, experience, and opportunities for learning and development into an organization and directly determines the competitive advantage of an individual entity, a specific project, or the organization as a whole. In the literature, intellectual capital is viewed as “the sum of knowledge, information, intellectual property, and experience that can be used to create added value” (Edvinsson, Malone, 2001, p. 40).

The structure of intellectual capital (see Table 2) is most often presented as comprising three types of capital (Skonieczek, Szalkiewicz, 2007, pp. 35-37):

- Organizational capital – structures, processes, intellectual property, and assets that organize and accelerate work. In projects, this type of capital can take the form of project repositories, tools for planning and monitoring task execution, including automated processes. This component provides predictability through adherence to defined quality standards. Well-managed organizational capital also helps select an appropriate methodology for a specific project, ensuring a defined pace of implementation and reducing project risk;
- Market capital – connects the organization or a specific project with the external environment. Particular emphasis is placed on reputation, which translates into trust and relationships with contractors and partners. Market

capital helps the organization better identify the needs of selected entities through more precise determination of scope and recipient requirements. It is also the most difficult component to control because it concerns external relationships beyond the organization and requires systematic communication and consistent relationship building;

- Human capital – despite various attempts to ‘personify’ artificial intelligence, it remains the real value of project systems. It consists of the knowledge, experience, and skills of project teams. This translates into the team’s ability to implement individual project stages correctly, anticipate potential risk, and act in conflict situations or substantive problems. Human capital is not owned by the organization; therefore, it becomes crucial for modern organizations to rely on mentoring, documenting solutions, and post-project learning processes as sources of organizational learning based on experience and documented knowledge. Such an approach enriches the organization even when an individual employee decides to leave.

Table 2. General structure of intellectual capital

Area	Example activities	Main objective	Link to projects
Human capital	Recruitment, training, coaching, mentoring	Enhancing competences and employee development	Better quality of decision-making and execution of project tasks
Organizational capital	Knowledge repositories, standardization, digital work environment	Embedding knowledge in organizational structures and tools	Repeatability of good practices in subsequent projects
Market capital	CRM, loyalty programs, cooperation with customers and partners	Building lasting relationships and reputation	Better identification of needs and greater acceptance of project outcomes

Source: own elaboration based on: Bontis, 1998

Throughout the project life cycle, these three types of capital form the foundation of effective action (see Fig. 2). In the initiation phase, market capital helps obtain relevant input information; human capital identifies types and levels of risk and develops the project scope; and organizational capital should ensure an appropriate working environment. During planning, team competencies translate the earlier vision into a concrete schedule, while processes and tools organize the project scope, and external relationships help define legal and logistical/organizational constraints. In execution, human capital is the actual executor of project and management activities and also resolves organizational and technical problems using tools and resources across the organization. External relationships are strengthened through various partners, which broadens the range of available options and resources by combining

the potentials of different entities for a given project and, where appropriate, using external resources. At closure, the organization archives lessons learned, the team consolidates knowledge, and external relationships support presenting results and using the final product to improve the company's reputation in its environment.

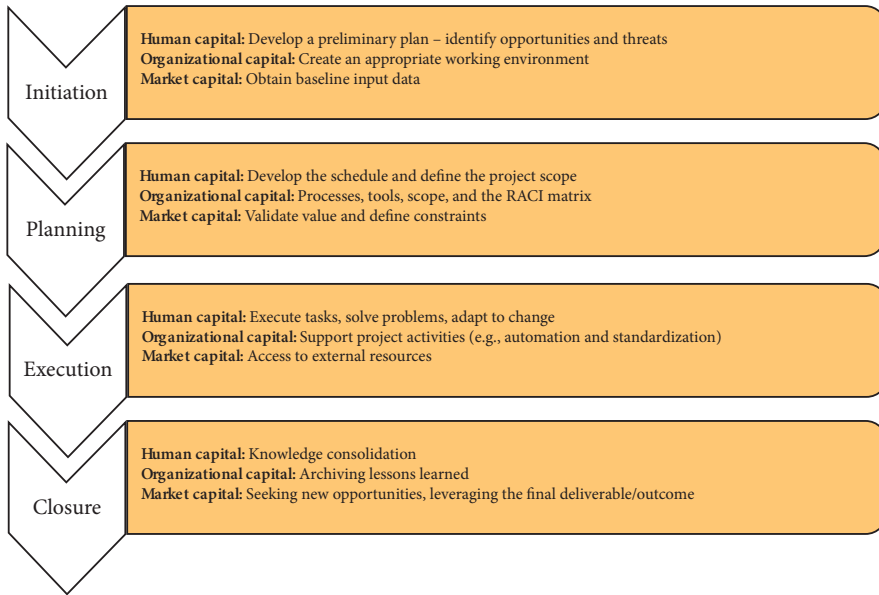


Fig. 2. The role of intellectual capital and its components in the project life cycle

Source: own elaboration

Modern approaches to project management, such as agile methods (Agile) or the Lean Management concept, place significant emphasis on the value expected by the customer rather than merely on the execution of the project itself. From this perspective, intellectual capital plays a key role by enabling flexibility, innovation, and rapid adaptation of project executors in the project environment. Organizations that can manage human, organizational, and market capital effectively start with a markedly stronger position in the eyes of customers than organizations that do not recognize this value in project management.

It is also important to recognize that organizations should consider not only the benefits of intellectual capital, but also the practical challenges associated with managing it, particularly in project-based environments. In many cases, IC initiatives are constrained by implementation barriers such as limited tools and financial resources, high costs, long and uncertain payback periods, and insufficient managerial awareness and decision support. Therefore, managing IC should be treated as an ongoing process that combines capability development with the identification and measurement of intangible resources, as this is essential for building sustainable

advantage and reducing the risk of knowledge loss (Igielski, 2016, pp. 56-58). From a project perspective, relational capital deserves special attention because stakeholder relationships are inherently interdependent and cannot be fully controlled; a decline in trust or shifts in partner expectations can quickly translate into delays and cost escalation. Moreover, relational capital extends beyond customers and suppliers to a broader set of actors (e.g., institutions, communities, and environmental stakeholders), which increases stakeholder-management complexity and strengthens the need for consistent communication and reputation-building (Mataczyna, 2023, pp. 78-80). Finally, the growing relevance of green intellectual capital adds another layer of difficulty, it requires integrating environmental objectives into projects while balancing economic, social, and ecological priorities under regulatory pressure and rising stakeholder expectations. At the same time, many organizations still struggle with identifying, developing, measuring, and safeguarding GIC, as well as with adequate reporting practices in this area (Bombiak, 2022, pp. 6-8).

4. Methods for developing intellectual capital

Due to its distinguishing feature, intangibility and intellectual capital requires organizations to use specific methods to develop it and maintain an adequate level within the organization. In today's project-based business environment, where knowledge, relationships, and competencies play a key role for the end recipient and are essential components that lead to acceptance of the final result, caring for the quality and value of intellectual capital becomes a key task for contemporary managers. Developing intellectual capital is a coherent program rather than a single initiative. The first step in developing the components of intellectual capital is to understand how these components are formed. Human capital at the level of a project team emerges through the combination of the individual intellectual capital of its members, what they contribute in terms of knowledge, skills, and experience together with the synergy effect, which raises the question of how this process can be supported within the organization. At the level of the entire organization, human capital is additionally created by integrating this potential with other company resources and through managerial actions that develop and direct it (Mikuła, Myjak, Trzcińska, 2023, p. 157). Structural capital arises when employees' knowledge and experience are "translated" into lasting organizational solutions, such as procedures, processes, standards, information systems, and other elements of infrastructure that remain in the company and can be replicated independently of particular individuals (Wójcik, 2021, pp. 61-63). Relational capital is formed through specific relationships between people representing different stakeholder groups who create a network of connections around a given enterprise. Such relationships are important because they support the creation of company value and can also contribute to gaining competitive advantage in a given market (Sokołowska-Durkalec, Zaremba-Warnke, 2020, pp. 40-42).

Among the methods that shape intellectual capital, it is particularly important to mention those that influence the value and quality of individual types of intellectual capital (see Table 3).

Table 3. Selected methods for developing an organization's intellectual capital

Human capital	Organizational capital	Market capital
– Recruitment and selection system aimed at acquiring competent employees with development potential; – Employer branding; – Training programs to enhance both hard and soft competencies (including tools such as coaching and mentoring); – Transparent HR structure based on clear appraisal and promotion criteria, development programs, and career paths; – Introducing a culture of learning through experience.	– Creating an agile organizational structure, striving to flatten hierarchies and decentralize; – Introducing knowledge repositories (e.g., intranet, document bases, or e-learning); – Implementing a digital workplace that promotes collaboration tools, ERP/CPM-class systems, and data warehouses; – Systematic collection of market data.	– Developing CRM systems and managing customer segments; measuring customer value; – Introducing loyalty programs or after-sales service into sales policy; – Developing cooperation networks with suppliers and distributors; – Active presence in industry environments (e.g., conferences or trade fairs). – Involving the customer in production or design. – Ensuring consistent external communication, which translates into organizational reputation.
Main target: improve competencies and embed learning mechanisms in organizational culture.	Main objective: embed knowledge in structures and tools so that it is repeatable and widely available.	Main objective: transform relationships with customers, partners, etc. into lasting value for the organization.

Source: own elaboration based on: Siemieniuk, 2008

It is worth emphasizing that the system for creating each component of intellectual capital is one integrated organism. Human capital generates and renews knowledge; organizational capital operationalizes knowledge in all processes and systems; and market capital transforms knowledge and shapes customer loyalty, revenues, and effective cooperation with partners.

In addition to the organizational perspective on intellectual capital, the literature increasingly emphasizes the individual level as an important source of project effectiveness. This is particularly relevant in project-based organizations, where outcomes depend directly on the competences, experience, and professional relationships of project managers and team members. Individual intellectual capital can be understood through three interconnected elements: individual human capital, which includes knowledge, skills, experience, and the ability to learn; individual structural capital, meaning personal work routines, methods, tools, and documentation habits that help codify knowledge and make it reusable; and individual relational capital,

understood as a network of professional contacts that provides access to expertise and resources. From a practical standpoint, strengthening intellectual capital therefore requires not only building organizational repositories and tools, but also developing individual professionalism and knowledge-sharing behaviours. This makes it possible to systematically transform experience and expertise from tacit, practice-based knowledge into explicit, documented forms that can be reused in future projects (Pietruszka-Ortyl, 2023, p. 136).

To conclude, it is worth emphasizing that the development of intellectual capital should be linked not only to implementing initiatives that strengthen employees' competences, organizational solutions, and relationships with external stakeholders, but also to their systematic measurement. In practice, managing the development of IC requires identifying key intangible resources and applying relatively simple methods to track how they change over time, which is particularly important. This matters because traditional performance indicators (e.g., ROI, ROA, ROE) do not fully capture the contribution of intangible factors or an organization's capacity to transform knowledge and competences into sustainable value. Therefore, complementing the financial perspective with indicators related to human and structural capital enables a more accurate assessment of the effectiveness of development efforts and supports more informed decisions about further improvement activities (Zubek, 2023, pp. 88-89).

5. Project management effectiveness in light of intellectual capital's impact

As mentioned earlier, modern enterprises operate under unpredictable and uncertain conditions, especially dynamic technological change, globalization, and growing competition across markets. Therefore, project management and the role of intellectual capital in this process are not only important tools for enterprises but also become attributes that enable strategy execution and the building of competitive advantage. Organizations place strong emphasis on project effectiveness and efficiency, in which intellectual capital influences every project stage. Human capital well motivated, properly qualified, and working under appropriate conditions is key to a company's survival and development under technological progress (Siemieniuk, 2008, pp. 21-22). Current project standards emphasize agility, timely value delivery, adaptation, and co-creation of solutions and development paths in cooperation with stakeholders, which forces the need for continuous and adequate development of project team competencies, organizational learning, and management of relational capital (Project Management Institute, 2021, pp. 11-13). This places strong emphasis on human capital, especially the skills, knowledge, and competencies of project teams. In this perspective, intellectual capital management is particularly important because it "enables better use of employee potential and increases the

effectiveness of decision-making processes” (Stosik, Kowalewski, 2011, p. 250). The impact of intellectual capital on effectiveness and efficiency is visible at every stage of project design and management, including:

- Project selection and initiation: intellectual capital directly influences accurate identification of opportunities and feasibility assessment. This reduces the risk of choosing an option that delivers low added value for the customer and the organization or may even lead to losses. Managing organizational knowledge as part of intellectual capital enables better alignment of projects with strategy and long-term plans;
- Planning and solution design: intellectual capital is widely used, especially its ability to integrate explicit and tacit knowledge within teams (Gross-Gołacka, Kusterka-Jeżańska, Miskiewicz et al., 2021). This shortens decision cycles and improves plan quality by generating realistic schedules, risk matrices, etc.;
- Execution: building strong relational capital based on a well-structured communication process and leveraging organizational reputation can significantly facilitate contact with partners and stakeholders and the acquisition of useful knowledge from the environment. This improves budget discipline and adherence to previously set deadlines;
- Control: a high level of intellectual capital supports knowledge-based control mechanisms in organizations that use modern standards, IT tools (repositories and dashboards), and the project awareness embedded in human resources. In practice, this leads to better definition of key indicators (e.g., outcome indicators), faster detection of deviations, and quicker implementation of corrective actions;
- Final evaluation, lessons learned, and continuous improvement: using mechanisms for consolidating knowledge through practice and capturing results in repositories. This stage leads to the ongoing development of the enterprise’s structural capital, which translates into higher productivity in subsequent projects.

Every project and every stage of its execution, consistent with the project life cycle, is a source of knowledge that enriches the level and quality of the organization’s intellectual capital and, consequently, the value of the entire organization. Minimizing waste and rational use of available resources in project execution taking into account cooperation with the environment and resource sharing support the growth of project effectiveness and, ultimately, the successful fulfillment of assumptions, requirements, and project constraints.

Conclusions

This article provided a synthetic identification of intellectual capital, which is defined in the literature as the sum of human, organizational, and market capital. In today’s unstable market environment, it is increasing in value and becoming

a key enterprise resource, with particular importance for project management. The presented impact of intellectual capital on each key project stage, from initiation to closure, indicates its role in shaping effectiveness and efficiency. The main constraints were identified and it was noted that improperly used intellectual capital can lead to delays and reduced project quality. The section devoted to the essence of intellectual capital highlighted its three main components and showed that the use of human capital is strongly correlated with modern standards, such as the value of organizational learning processes. Methods for developing intellectual capital were also presented, from HR policy, through building knowledge repositories and shaping the work environment, to developing market relationships. It was emphasized that these methods complement each other and form a synergistic system that is crucial for organizations because it ensures continuous development, improves customer relationships, and supports revenue growth. In sum:

- Intellectual capital is a dominant driver of increased project effectiveness and efficiency through better rational selection of project initiatives, higher-quality decisions during execution, and a greater chance of achieving assumed objectives;
- The three components of intellectual capital should be used systemically and developed in parallel, advantage in projects appears only when team competencies are properly supported within the enterprise and by good relationships with the external environment;
- Modern project management standards foster the integration of intellectual capital and facilitate building an internal culture through cooperation and continuous improvement, which supports the growth of execution capacity and increases its usefulness in subsequent projects.

Thus, the attempt undertaken in this article – consistent with the adopted interpretation of the hypothesis that intellectual capital is a strategic resource and influences final project outcomes through better project selection and initiation, more efficient planning, more effective control, and support for organizational learning confirms the possibility of improving the effectiveness and efficiency of the project management process.

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