

**FORMATION OF INVESTMENT ATTRACTIVENESS
OF INTELLECTUAL CAPITAL OF ENGINEERING COMPANIES
IN THE CONTEXT OF IMPROVEMENT
OF INNOVATION ACTIVITIES MANAGEMENT**

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The study examines the formation of investment attractiveness of intellectual capital of engineering companies in the context of improving their innovative activities. Market conditions and problems of the engineering services segment are studied, the need for domestic engineering enterprises to comply with the international regulatory framework is emphasized. The need to build modern marketing information systems as an element of increasing the intellectual capital of the company and the marketing activity of engineering companies in increasing the commercial potential of innovative technologies is substantiated. It is proposed to use modern technologies for managing innovation activities, such as design thinking, organizational laws adapted to the specifics of engineering using the capabilities of project management, and the latest methods of personnel training. The directions of forming the intellectual capital of engineering companies are studied. Directions for investing in the intellectual capital of an enterprise providing engineering services are developed. The organizational capital of engineering companies, conditions and factors for its increase are studied.

Introduction

Improving the innovative activities of engineering companies creates a solid foundation for innovative renewal and development of industrial enterprises and intellectual entrepreneurship in general. Consequently, the problems of engineering companies in Ukraine require research and development of directions for increasing their intellectual capital by forming and modeling the investment attractiveness of intellectual capital as the main source of profit in the context of its capitalization and commercialization of technologies in the digital knowledge economy.

Unfortunately, today there is a significant gap between the scientific achievements of leading scientists and the practical working conditions of engineering companies in their innovative activities. Therefore, it is necessary to increase efforts to combine science and practice, reduce the time of implementation of modern approaches to improving the management of innovative activities based on modern management methods and the exchange of practical experience of successful enterprises in the services and innovation market.

On this path, special attention and research are needed in the aspects of increasing the efficiency and success of innovative projects, which, in combination

with attracted investments, form the innovative and investment basis for the innovative development of both the country as a whole and individual enterprises.

Ukraine's direction to the EU opens up opportunities to attract European investors and funds. The first step in this direction is understanding the importance of investing in the development of intellectual capital of companies, both enterprises-consumers of such technologies, and the engineering companies themselves, acting as intermediaries of the first two players, are able to more effectively implement technologies as a result of the development and implementation of innovation and investment projects. Taking into account the search for and attraction of investors, the second important step is to study the problems of increasing intellectual capital in the directions of its structural components and approaches to assessing the commercial potential of innovative projects, which are implemented by an engineering enterprise and directions for improving the management of its innovative activities.

Thus, the object of the study is the process of improving the management of innovative activities. The subject of the study is theoretical and practical approaches to the formation of investment attractiveness of intellectual capital in the directions of its structural elements to increase the commercial potential of innovative projects of engineering companies.

The purpose of the study is modern approaches to the development of investment attractiveness of intellectual capital and increasing the commercial potential of innovative investment projects (IIP) in the practical conditions of engineering companies. To do this, it is necessary to solve the following problems:

- study the market of engineering services and identify the problems faced by enterprises;
- formulate modern aspects of informatization at enterprises providing engineering services to increase their competitiveness;
- determine the importance of active marketing activities of engineering companies in increasing the commercial potential of innovative technologies;
- propose a design thinking methodology as increasing the efficiency of innovative activities of engineering enterprises;
- adapt the system of organization laws to improve the management of innovative activities of enterprises providing engineering services;
- provide recommendations on the use of modern management technologies for innovative development of the enterprise;
- study the directions of formation and capitalization of intellectual capital of engineering companies;
- develop directions of investment in the intellectual capital of the enterprise for the provision of engineering services;

– study the organizational capital of engineering companies, conditions and factors of its increase.

The issues of assessing the investment attractiveness of project portfolios, enterprises, industries, regions, and the state were the focus of such scientists as L. Gitman, J. Soros, W. Sharpe, A. Sheremet, I. Blank, A. Peresada, V. Shevchuk, P. Rogozhin, A. Goiko, M. Kreynina, and others. The concept of commercial potential of innovations was studied by leading scientists such as P. Pererva, T. Kobeleva, A. Butnik-Seversky, S. Ilyashenko, D. Korobkov, V. Pozdyakov, I. Posokhov, S. Sudarkina, B. Chernyshev, V. Sharpe, V. Charne, J. Schumpeter, A.I. Yakovlev, and others. Aspects of improving the management of innovation activities and increasing intellectual capital are devoted to the work of S. Ilyashenko, P. Pererva, V. Pozdyakov, I. Posokhova, V. Prudnikova, I. Repina, etc. But further research is required on the issues of forming the investment attractiveness of intellectual capital, increasing the commercial potential of innovative projects and improving the management of innovative activities in the field of providing engineering services.

Role of marketing activities in the process of forming investment attractiveness of intellectual capital

The structure of the study is based on understanding the essence and structure of intellectual capital and its role in managing the innovative activities of an enterprise providing engineering services (in Fig. 1), which, in turn, allows combining the areas of intellectual capital development through increasing investment attractiveness with increasing the commercial potential of technologies in the development and implementation of projects.

As can be seen from Fig. 1, engineering companies play an important role in the market of innovative technologies, they unite the enterprise-developer of the technology and consumers of the technology, in addition, they develop and implement projects for the implementation of technologies, and, therefore, to a certain extent, form the investment attractiveness of innovative investment projects for investors who evaluate not only the technology itself, but also the engineering company that will implement the project, primarily from the point of view of the intellectual capital owned by the engineering enterprise and the potential for the implementation of this capital, that is, how effectively the capitalization of intellectual potential occurs in a specific project. Thus, the definition of the directions for increasing intellectual capital forms the basis for improving innovative activities in general, which, in turn, leads to an increase in the commercial potential of innovative investment projects developed and implemented by the engineering

company. The study is devoted to solving these issues. As stated above (see Fig. 1), the main factor of success of an engineering company is cooperation in the technology market with technology developer enterprises on the terms of system integration and the search for technology consumers-clients both in the domestic and international markets.

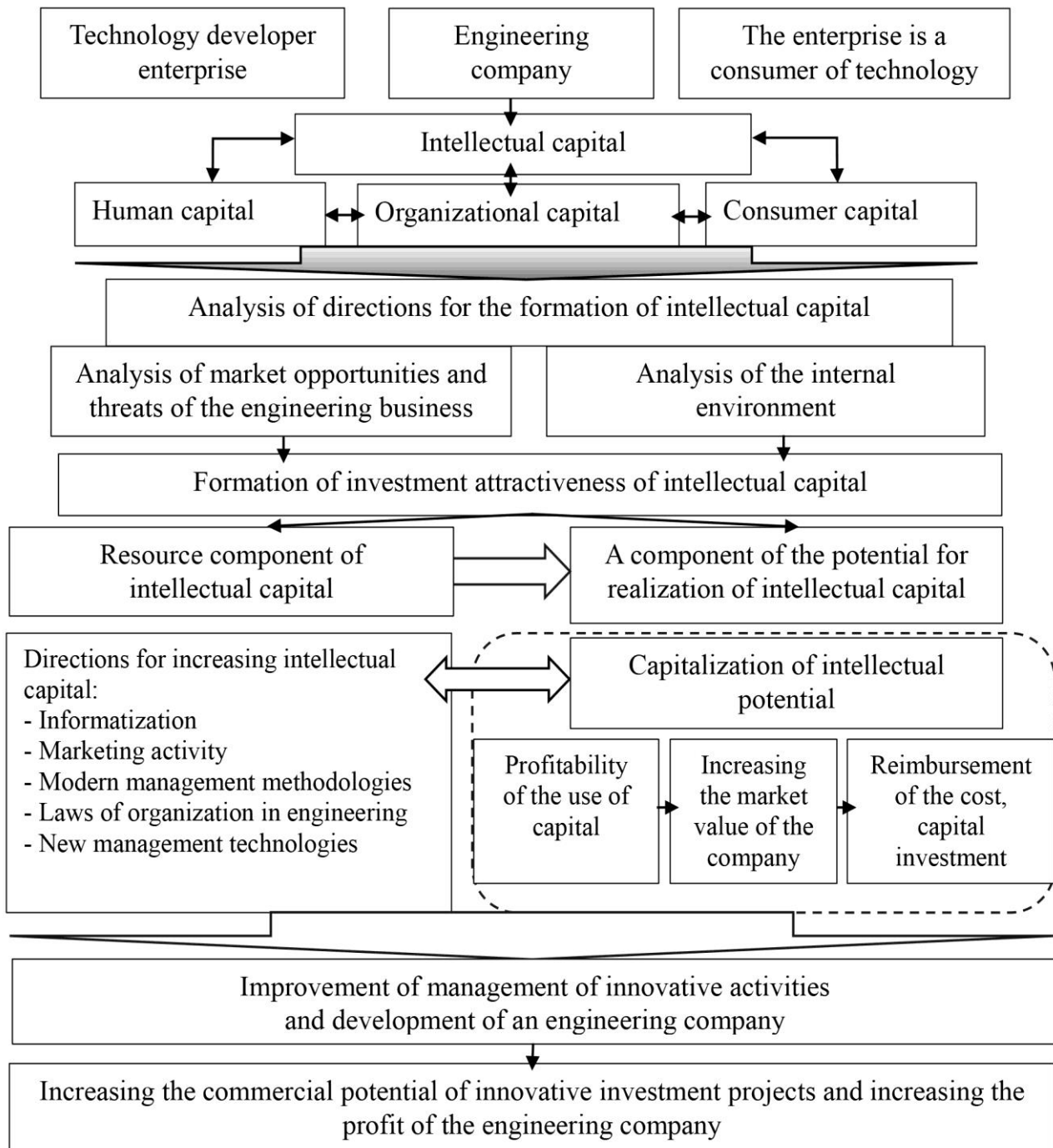


Fig. 1. Structure of the study of the formation of the investment attractiveness of the intellectual capital of engineering companies in the context of improving the management of innovative activities (*authors' development*)

Such clients are motivated in innovative renewal and development and are ready to implement the relevant projects, i.e. they either have their own funds and/or are willing and able to obtain funds from other sources. The problem of finding investors arises. Consequently, the formation of investment attractiveness helps to carry out the selection of both innovative investment projects and engineering companies-executors of the project. The study of trends in the development of the innovative technology market is associated with the analysis of the engineering services market and reflects the possibilities and intensity of the introduction of scientific and technological progress achievements into production, in particular, innovative technologies.

The supply on the market is mainly formed by engineering companies from economically and technologically developed countries, and demand is formed by developing countries. The result of increased demand is high prices for engineering services in consumer countries. There is a stable tendency for the costs of purchasing machinery, equipment and software to dominate. Pure and technological engineering, which is of the utmost importance for the Ukrainian economy and is associated with research, new developments and the acquisition of external knowledge, occupies a small share in the total volume of innovation costs. The engineering market in Ukraine has long been in the development stage [1]. Possessing high intellectual potential and experience of successful activity in this area, Ukrainian engineering companies are increasingly in demand on the domestic market, which is explained by the country's focus on the EU and the need to accelerate the innovative revival of the country in the post-war period.

Market analysis involves studying regulatory documentation on engineering services in various fields, for example, the "Guide to the Provision of Services to Engineers", which was developed by the American Society of Civil Engineers (ASCE). In addition, the United Nations Economic Commission for Europe, later, also developed the "Guide to the Establishment of International Contracts with Consulting Engineering", which identified various types of engineering. A large amount of work on the unification of engineering was carried out under the auspices of the European Bank for Reconstruction and Development, which made it possible to form a unified approach to attracting investment in new engineering developments, the development of economic and social factors.[1]

In addition, given the European integration, special attention should be paid to the aspects of informatization and obtaining creative information by managers of engineering enterprises.

Marketing information systems (MIS) for service enterprises in modern conditions are a mechanism for implementing the function of long-term forecasting

and determine the orientation towards customer behavior for communication between the seller of the service and the buyer [2].

The main tasks of MIS:

1) assessment of the information needs of marketing managers (monitoring, accounting, analysis of plan implementation, verification of achieved results);

2) obtaining data (study of market characteristics; measurements of potential market opportunities; search for new clients (potential, existing), study of reactions to new and existing services);

3) analysis of information and forecasting of results (study of business activity trends, study of competitors, short-term and long-term forecasting to prevent threats to the marketing environment);

4) obtaining prepared information for decision-making [3].

According to the authors, digitalization and informatization of engineering companies should include decision support systems (DSS) that are integrated into the enterprise's MIS and use the capabilities of artificial intelligence.

An MIS with a neural network can solve such complex problems as: calculating the project forecast cost, calculating the cost of engineering services, which is agreed upon between the customer and the contractor (consultant) at the stage of concluding the contract. This is due to both the variety of services provided and their non-standard nature, the impossibility of pre-establishing the final volume of necessary work and the total amount of costs associated with their implementation. Therefore, the cost of services determined at the stage of concluding a contract can be adjusted in accordance with the actual costs upon completion of the work. Consequently, an engineering enterprise needs to submit a project with an already determined forecast cost that ensures the competitiveness of the enterprise in obtaining a tender for the performance of work. For this purpose, it is advisable to use the method of calculating remuneration for the provided engineering and consulting services based on actual costs plus a fixed remuneration. The input data for entering and training the neural network represent the first stage of training the neural network on the training sample. In this case, the user can choose different algorithms and an activation function for training the neural network. After entering new data, the user receives a projected value of the project cost, the projected cost of equipment, the cost of installation work, equipment setup, the number of workers who will perform installation and setup, the expected amount of wages for workers, and all this taking into account the projected hryvnia exchange rate [4].

But any digitalization and informatization cannot be implemented without the development of the company's intellectual capital.

As is known, intellectual capital consists of both tangible and intangible resources. All aspects are very important for an investor, since both the resource component and the component of the potential for the implementation of intellectual capital affect the improvement of innovative activities and the development of an engineering company, and, accordingly, the implementation of projects.

In general, three components are distinguished in the structure of intellectual capital (see Fig. 1): human capital, organizational capital; consumer capital (in a broader sense, as interface capital or relationship capital). The intellectual capital of an enterprise is a set of intellectual resources (tangible and intangible) and the ability to implement them, determining the ability of an enterprise to develop on the basis of information and knowledge in relation to specific market conditions [5].

Indeed, intellectual capital should be considered as the result of the implementation of intellectual potential. The result is manifested in the cost estimate or profitability of capital use in the process of its capitalization, as can be seen from Fig. 1, an increase in profitability increases the market value of the company, which, in turn, increases investment attractiveness and ensures investment in the further development of the enterprise's innovative activities.

It is in the market conditions that the efficiency of the implementation of intellectual potential is determined. The company's marketing activity ensures a more efficient implementation of intellectual capital and is one of the areas of growth of the resource component of intellectual capital. Research of demand for innovations is a very complex process, it must take into account the stage of the life cycle of the innovative technology. It is the engineering company that cooperates with the manufacturer of the technology that knows at what stage of life a certain technology is and can plan and forecast its commercialization, develop effective tactics and strategy for marketing entry into and exit from the market, helps to predict changes in consumer needs; identify changes in the competitive environment, promptly adjust the technology marketing plan; ensure a balanced proportion of new, growing and mature technologies; significantly reduce the market cycle of technology due to the acceleration of scientific and technological progress and investment growth [7]. Engineering companies create demand for a certain innovative technology by actively participating in international conferences, seminars, exhibitions, and within the framework of such events, they manage to influence the opinions of top managers of leading industrial enterprises of Ukraine, with whom close ties and cooperation have been established. On the one hand, an engineering company closely cooperates with technology developer corporations as their system integrator and carries out research and determines the demand and requirements of potential consumers regarding

novelty, technological features, possibilities of gradual implementation, availability of software, etc. On the other hand, an engineering company informs the technology developer enterprise about its clients, usually medium and large enterprises that were provided with engineering services. At the price formation stage, the role of engineering companies is also difficult to overestimate, because they are able to help adjust the pricing policy of the owner and manufacturer of the technology in such a way as to ensure its competitiveness; for the customer enterprise, it is necessary to justify the price by proving the scientific, technical, economic and social potential of the technology, i.e. to conduct a presentation of technology as a system integrator. As for the channels for promoting technologies, engineering directly acts as a form of technology transfer, and they also engage in advertising as system integrators for individual manufacturers of innovative technologies [8].

Modern management technologies in improving innovation activities

In addition to marketing activities, aspects of improving innovation activities based on the introduction of modern management methodology that allows developing and implementing successful projects are of great importance. To create innovative products that meet consumer requirements, it is necessary to apply the modern concept of design thinking. Design thinking is understood today as a modern methodology that includes the following elements: principles, methods and research practice. Fig. 2 shows a logical diagram of the design thinking process.

A feature of the diagram in Fig. 2 is that it includes the stages of selecting the best ideas, creating a prototype and testing it, and is supplemented by mandatory feedback at the testing stage with the consumer/client, and only after that innovative goods/services are created that meet the needs and desires of market segments, ensure the commercialization of innovations, increased profits, a stable position in the market and sustainable development of the enterprise. [9] Design thinking requires the presence of appropriate design management. Design management links design, innovation, technology, management and clients, marketing of innovations to ensure a competitive advantage in three main areas: economic, socio-cultural and environmental factors. In addition, design management allows resolving the main contradiction of the "fuzzy external interface", that is, the process of developing an innovation with its subsequent commercialization and operations in the market. Design management creates an appropriate design contour of the company's environment and the design of its corporate culture. It is this approach that determines the company to develop and maintain its intellectual potential.

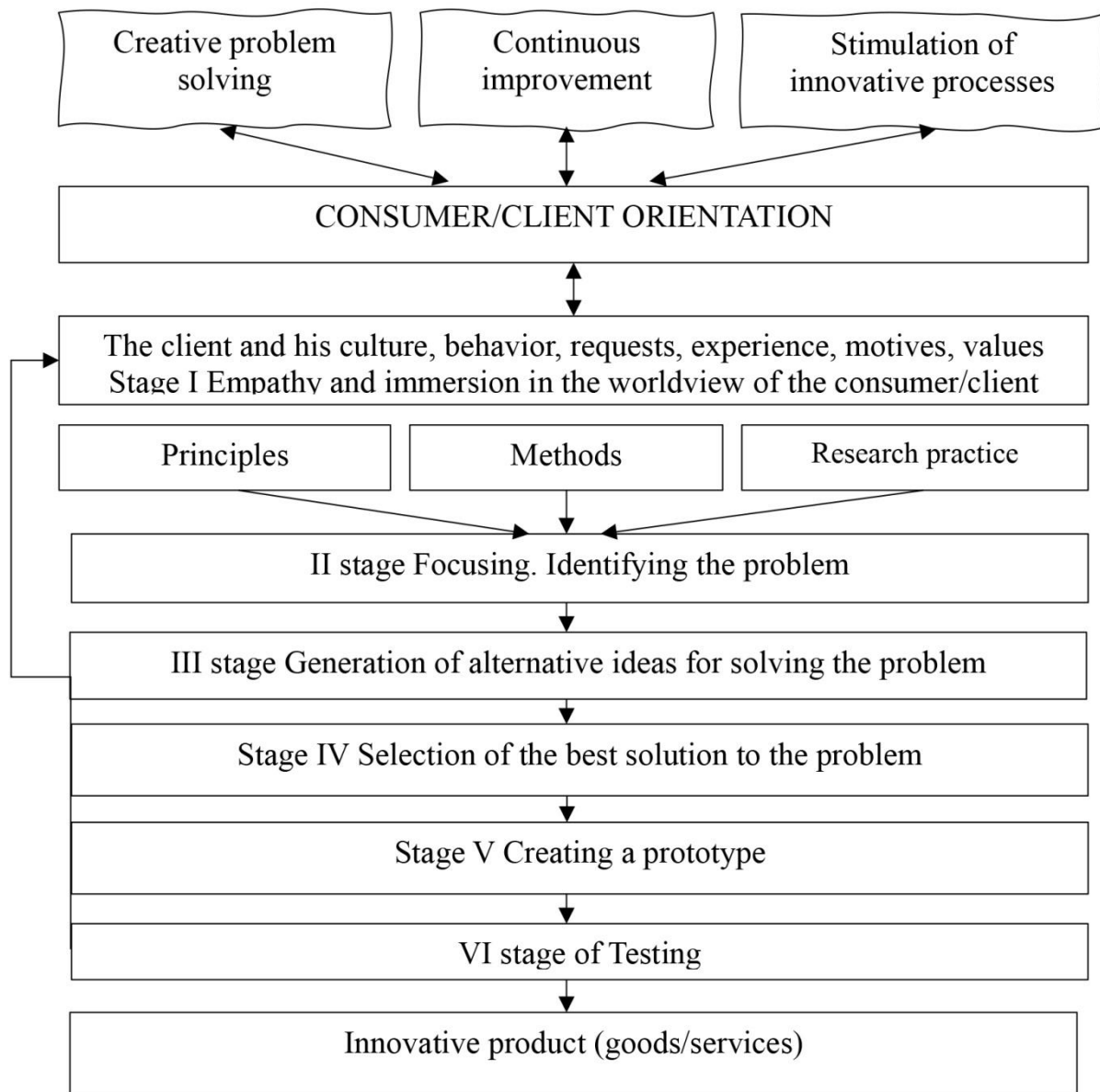


Fig. 2. Logical diagram of the design thinking process [9]

The design management process includes defining the mission, goals, principles and methods; design processes for solving business problems of innovative projects [10].

For successful development of the organizational capital of the company, it is necessary to use the system of laws of the organization. Engineering companies have their own characteristics and specifics of the organization. Table 1 indicates the main laws of the organization and indicates the features of the manifestation of these laws in the conditions of companies when implementing engineering projects. Managers who have knowledge of the laws of the organization, understand how to use this knowledge in practice, form the so-called organizational capital, which is part of the intellectual capital of the company [11].

The combination of modern management concepts based on the laws of organization is implemented through management technologies.

Table 1

The Laws of organization in the minds of engineering companies [11]

The laws of organization	Features of manifestation
1	2
1 The Foreign laws apply to all organizations	
The law of synergy	Monitoring and evaluation of synergy indicators in order to ensure the achievement of its positive effect
The law of self-preservation	Formation and increase of the enterprise creation potential based on internal and external market potential
The law of development	Virtualization of business systems based on the intellectualization of specialists for innovative development at all stages of the life cycle.
The law of correspondence between the subject of management and the object of management	Building cooperation between the project company, the project customer and stakeholders based on taking into account the interests of all interested parties, because the readiness to make changes and improve the project is more important than following the approved preliminary plan within the framework of the Agile philosophy.
The law of the relationship between the whole and the parts	Hierarchical structure of works, selection of effective decomposition of project execution works
The law of needs	Modern motivation systems are built on defined corrective pay coefficients depending on the assessment of the contribution to the implementation of the project.
2 The Private law valid in specific conditions	
The law of continuity and rhythm of production	Implementation of production automation projects based on innovative technologies and software, taking into account the specifics of the customer's production in order to eliminate non-rhythmic work and increase production efficiency.
The law of competitiveness of management personnel	Evaluation and appointment of project managers by competitive selection, ensuring horizontal rotation of managers for their professional growth.
3 The Specific law, acting in a specific type of activity	
The law of awareness	Creation of a project office and virtual infrastructure for the effective implementation of programs and projects based on the use of information and communication technologies to ensure the receipt and exchange of information.
The law of unity of analysis and synthesis	Application of the Waterfall method – project analysis, design, project development, testing, support.
The law proportion and composition	The distribution of resources in proportions that ensure convenience, efficiency and cyclical execution of work is based on the Agile philosophy.

Continuation of the Table 1

1	2
The law of differentiation and universalization of functions	Application of the iterative methodology, when the result of each sprint is a finished product, and each subsequent iteration increases the functionality of the previous one, for example, in the Scrum framework.
The law of originality	Features of creating an effective organizational structure of the project organization, its culture and technological philosophy.
The law of social harmony	Social development and social responsibility.
The law of optimal loading and effective perception	Taking into account creativity, the ability to be creative, an individual approach to each participant in the implementation of the project.

The present is characterized by the search for new management technologies that take into account changes in the environment. Unfortunately, existing management methods and technologies are ineffective in conditions of uncertainty, rapid intellectualization and digitalization of the economy. It is especially difficult to manage enterprises providing services, such as engineering companies. The main aspect in the innovative development of an enterprise is the desire of its employees to learn. The so-called Kolb model is gaining popularity, taking into account the psychological aspects of learning in the form of a spiral, which is based on the already acquired personal experience with subsequent reflection, and then action. In addition, the management technology based on the inspirational management of innovative projects deserves special attention, thanks to which it is possible to minimize the negative consequences of rapid changes. This is especially evident in the management of innovative projects and programs. In this case, the trust assessment technique becomes useful, which will allow: to assess the possible resistance of personnel and the motives for this resistance; to identify the weak links of the organization; to determine possible measures to minimize the risks of the behavioral factor of managers [12].

Investment directions and aspects of intellectual capital development

Investment attractiveness is a set of factors, the analysis of which indicates the possibility of investing in a particular object and obtaining a certain effect from the completed transaction, that is, it is a set of features that allow a potential investor to assess how much an investment object is more attractive than others for investing available funds [13].

A condition for investing in the development of intellectual capital is the interpretation of its essence as capital, i.e., based on the cost approach. Thus, as

an economic and legal category, intellectual capital should be considered from the position of advanced intellectual value, which in the process of its movement brings greater value due to surplus value. Such an interpretation of intellectual capital can be defined as socio-economic. [14] Innovative activity of an enterprise in providing engineering services based on the socio-economic interpretation of intellectual capital is schematically shown in Fig. 3.

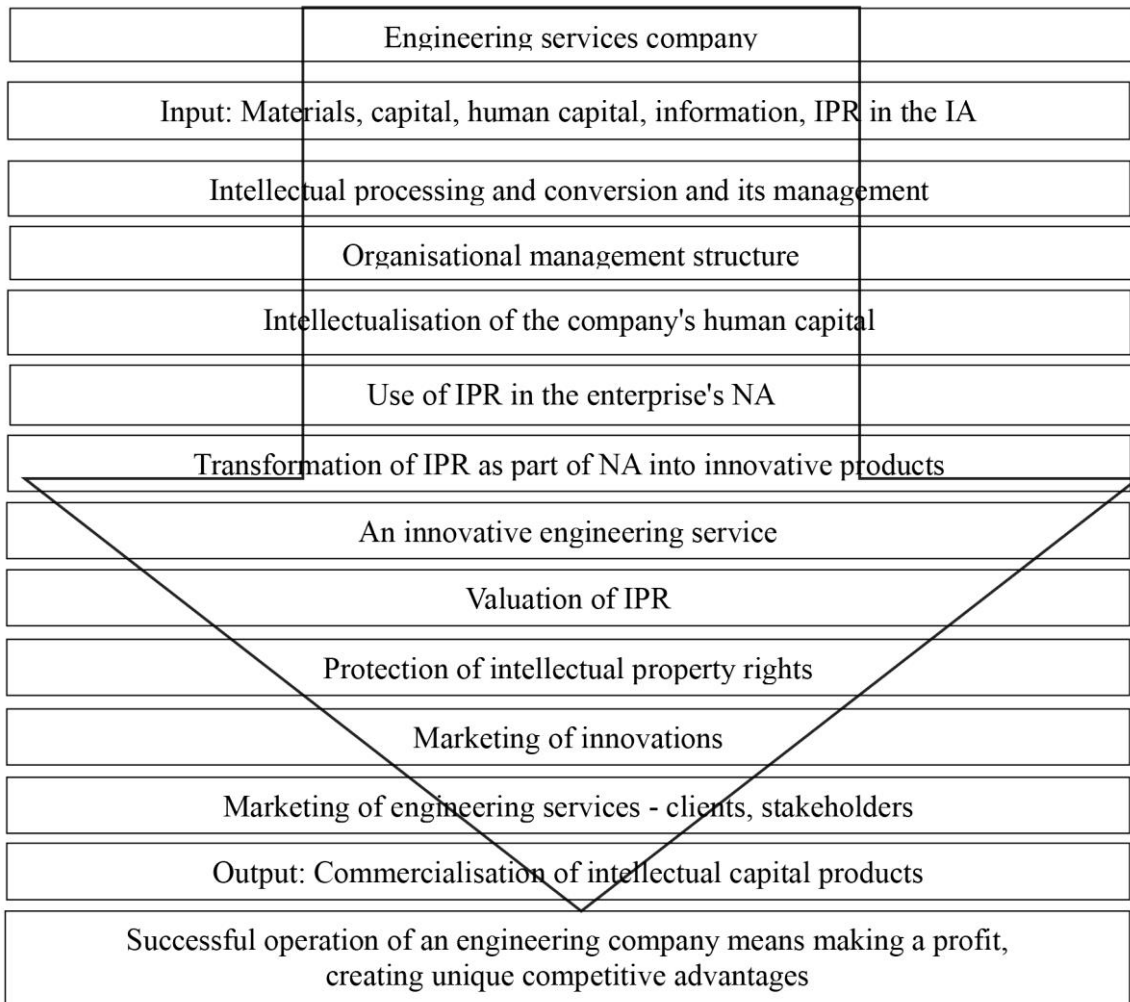


Fig. 3. Innovative activity of an engineering company based on the socio-economic interpretation of its intellectual capital [15]

Fig. 3 shows the stages of transformation of intellectual capital and its components into added value – making a profit and creating unique competitive advantages of an engineering company, ensuring continuous improvement of innovative activity in the innovation market.

The socio-economic interpretation of intellectual capital allows us to formulate investment directions in its development.

Financial capital acts as a function of intellectual capital; the dominants of intellectual capital are human capital and structural capital; human capital acts as

the main factor of structural capital; the dominants of structural capital are client and organizational capital; organizational capital forms innovative and process capital; innovative capital is based on intangible assets (IA) of the enterprise, presented in the form of intellectual property rights (IPR) and other intangible assets [16].

The directions of investment in the development of intellectual capital are schematically shown in Fig. 4.

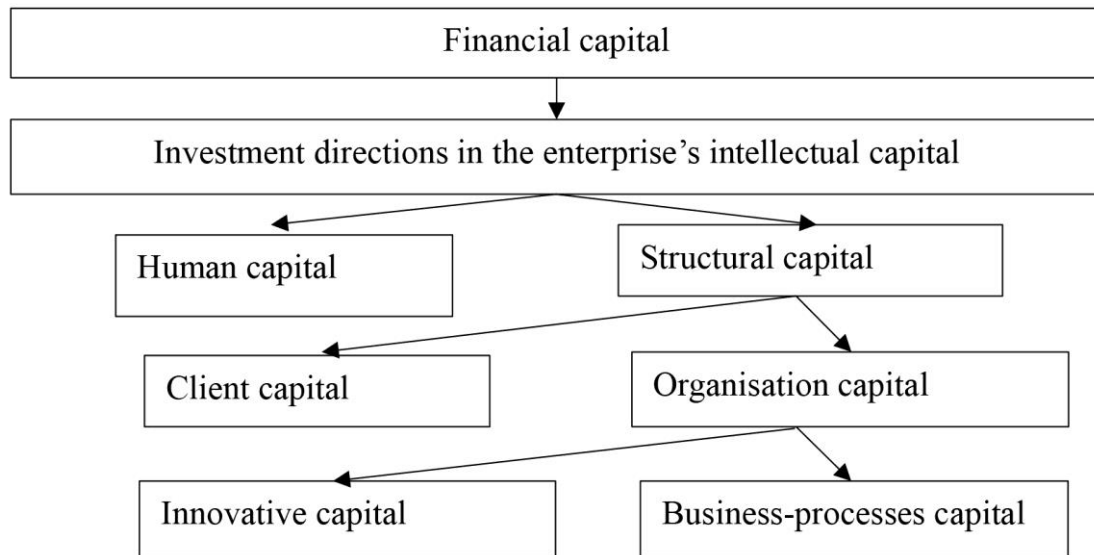


Fig. 4. Directions of investment in the intellectual capital of the enterprise [17]

As can be seen from Fig. 4, investments in intellectual capital are associated with the financial capital of the enterprise, in addition, the main directions of investment in intellectual capital are human and structural capital. The latter is formed from client and organizational capital. Organizational capital is based on innovation and business process capital, that is, on the basis of the business process model selected by the management of the enterprise. Thus, investment in intellectual capital has a complex multi-factor structure. In addition, one type of capital flows into another, which leads to a certain duplication. In order to ensure the effective development of the intellectual capital of the enterprise, in particular in the provision of engineering services, it is necessary to develop an appropriate investment strategy.

One of the directions for improving the innovative activity of the enterprise is the formation of organizational capital, which directly affects the final result not only in terms of economic efficiency, but also in terms of the social effect. Conditions and factors for increasing the organizational capital of the enterprise:

- 1) collective interaction;
- 2) priority of functions over structure;
- 3) elimination of dysfunctions in the work of the enterprise;
- 4) regulation and optimization of production processes in space and time;

5) compatibility of professional and collective norms, values of corporate culture through training, exchange of knowledge, skills and abilities;

6) organizational management structures based on standardization as the main method of coordinating actions and focused on transparent control of compliance;

7) the possibility of transforming human intellectual potential into objects of intellectual property rights;

8) conditions for flexibility of functions by structure;

9) formalization and regulation of procedures for the use of modern information IT technologies and software [6].

Organizational capital is of particular importance for engineering companies, because as a value it combines the interests of all stakeholders with whom the enterprise works through communications, information exchange, coordination and harmonization of actions, regulation of service provision and collective decision-making on engineering projects [19].

Since the study is specifically about the provision of engineering services, in addition to tangible assets, intangible assets also act as investment objects: intellectual property (IP) (patents, licenses, know-how, software), rights to use land and other resources, property rights, investments in staff development, etc. There are two types of investments in the intellectual capital of a company: financial and scientific and technical (intellectual). Intellectual investments are made in the form of:

1) acquisition of exclusive rights of use – purchase of patents, licenses for inventions, industrial designs, trademarks;

2) acquisition of information services through the hiring of various kinds of specialists – scientists and practitioners under a contract or through a one-time purchase of information services;

3) acquisition of scientific and technical products, i.e. intellectual goods in material form;

4) investments in human capital, i.e. expenses on education, training and retraining of personnel, training, etc. [19].

Thus, by investing in the intellectual capital of engineering companies, the efficiency of commercialization of technologies is increased through the development of engineering as one form of technology transfer.

Engineering aims to obtain the best results from investments in the implementation of projects through the achievements of science. Through engineering, it is possible to achieve a reduction in the terms of project implementation, reduce the volume of investments, reduce production costs per unit of output, and also increase the efficiency of capital investments. Engineering has

a close connection with science, consisting in a single process of creation, testing and implementation of technical and technological achievements, advanced solutions and developments. Science learns, generates new ideas and solutions, and engineering brings them to practical use [20]

Conclusions

The conducted study made it possible to accomplish the tasks set to achieve the goal, namely:

1) the analysis of the market conditions in which engineering companies operate shows the need to activate engineering companies in the direction of improving innovation activities due to a significant gap between the achievements of science, the development of innovative technologies and their commercialization and implementation in the activities of domestic enterprises. Improving innovation activities is inextricably linked with the formation and development of the intellectual capital of such companies;

2) the study of information support for engineering companies confirms the need to improve marketing information systems using artificial intelligence by supplementing them with decision support systems and modern software, which will allow engineering enterprises to significantly increase not only their own intellectual potential, but also the commercial potential of the technologies that they implement at enterprises in innovative investment projects, increase competitive advantages and win in the competitive struggle;

3) the introduction of modern management technologies into the activities of companies increases intellectual capital by improving such components as human capital, organizational capital, and relationship capital. One of such technologies is the concept of design thinking, which focuses the attention of the company's management on the consumer-client. For engineering companies, it is extremely important to understand the desires of, on the one hand, the enterprises-customers of engineering services for the implementation of innovative technologies and technological renewal of production, on the other hand, the enterprises-developers of innovations, and on the third hand, investors, which increases the satisfaction and loyalty of the end client, creates conditions for investment attractiveness of both the company itself and the investment projects that it implements;

4) on the way to activating and continuously improving innovative activities, it is necessary to use a scientific approach based on the laws of the organization. The talent and experience of managers lies in the ability to adapt these laws to the activities of the enterprise in a specific area and industry. The study proposes

an interpretation of these laws (see Table 1) from the point of view of practical aspects of the activities of engineering companies, which, if implemented, will provide a significant increase in the intellectual capital of the company;

5) the result of the conducted research was the development of approaches and understanding of the formation of intellectual capital in accordance with its structural elements, the process of capitalization is shown, which is understood as the result of the implementation of intellectual potential;

6) the obtained results made it possible to show the investment attractiveness and develop directions for investing in the intellectual capital of an engineering company, which is beneficial both to the company itself and to all stakeholders of innovation and investment projects;

7) the conditions and factors of the formation of the organizational capital of the engineering business, one of the important components of intellectual capital, were studied, directions for its increase were proposed, which will allow, in combination with modern management technologies, to significantly increase intellectual capital, increase the intellectual potential and investment attractiveness of an engineering company in its innovations. .

Thus, it can be noted that the goal of the study has been achieved, modern approaches to the formation of investment attractiveness of intellectual capital in the context of engineering companies have been studied, the components of intellectual capital and the process of capitalization of intellectual potential have been considered, investment directions for improving the management of innovative activities have been shown, which will ultimately significantly increase the commercial potential of both innovative technologies and innovative investment projects that are developed and implemented by the enterprise providing engineering services, and this, in turn, will increase the innovative development of the domestic economy as a whole. The direction of further research is to study individual components of intellectual capital, such as human capital and relationship capital, in addition, aspects of the formation of organizational capital of engineering companies deserve a more detailed study, as the basis and main driver for the implementation of best practices and innovative changes.

References

1. Bushuiev M. Research of the market of engineering services. Young Academy – 2023. Collection of abstracts of reports of the All-Ukrainian scientific and technical conference of students and young scientists. Dnipro, Ukrainian State University of Science and Technologies, 2023. 216 p. P. 110.

2. Kompanets K.A. Implementation of the marketing information system in the activities of enterprises in the service sector. Economic analysis: collection of scientific papers. Ternopil: Publishing and printing center of the Ternopil National Economic University "Economic Thought", 2018. Vol. 28. No. 1. P. 231–235.
3. Fonarova T.A., Petrenko V.A., Bushuiev K.M., Bushuiev M.B. Modern aspects of informatization at enterprises providing engineering services. Project management. Prospects for the development of project and neuromanagement, information management technologies, technologies for the creation and use of intellectual property objects, technology transfer: Coll. of works for the materials of the V Int. science and practice. Internet conf. (March 23–24, 2023). UDUNT, UKRNET, NII NAPR of Ukraine, Dnipro: Yurservice, 2023. 730 p. Pp. 638 – 647. URL: https://nmetau.edu.ua/file/zbirnik__materialiv__konf_udunt_2023.pdf
4. Petrenko V.A., Bushuiev K.M., Savchuk L.M., Fonarova T.A. Application of neural networks in decision support systems of the company's marketing information system. Project management and development: Coll. of scientific papers. No. 3 (67). Kyiv: Publishing House of VNU im. V.Dalya, 2018. P. 43–52.
5. Ilyashenko S.M., Ilyashenko N.S., Shipulina Yu.S. Intellectual capital as the basis for innovative development of an enterprise in the knowledge economy. Creation, protection, defense and commercialization of intellectual property rights: Proc. of the 5th All-Ukrainian Scientific and Practical Conf. with international participation, April 26, 2022: el. collection of works. Nat. tech. univ. of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute". Kyiv, 2022. P. 252–256. URL: <http://repository.kpi.kharkov.ua/handle/KhPI-Press/57103>
6. Bushuiev M. Formation of organizational capital of a metallurgical enterprise. 17th International Symposium of Croatian Metallurgical Society Materials and Metallurgy, SHMD '2024 Croatian METALURGIJA 63 (2024) 2, p. 303–305.
7. Petrenko V.O., Fonarova T.A., Ustinov A.A. Technology marketing management as the main direction of increasing the competitiveness of Ukrainian innovative entrepreneurship. Issues of intellectual property in the field of technology transfer: collection. of science works IV All-Ukrainian science and practice conf. 2021, Kyiv: Research Institute of Intellectual Property of the National Academy of Sciences of Ukraine, 2021. 279 p. P. 196–210.
8. Fonarova T., Bushuiev M., Petrenko V., Bushuiev K. Marketing activities of engineering companies in increasing the commercial potential of innovative technologies. International Scientist-Pract. conference "Intelligent information systems in project and program management", Koblevo, September 12–15, 2023. Proceedings. Kharkiv: Khnure, 2023. 224 p. P. 22–26. DOI: <https://doi.org/10.30837/IISRRM.2023.09>
9. Bushuev M.B., Petrenko V.O., Fonaryova T.A. Design thinking as a modern methodology for solving innovation problems. Project management. Prospects for the development of project and neuromanagement, management information technologies, technologies for the creation and use of objects of intellectual property rights, technology transfer: a collection of scientific articles by subject. VI International science and practice internet conf. (March 23–24, 2024). UDUNT, UKRNET, NDIIV NAPRN of Ukraine, Dnipro: Yurservice, 2024. 730 p. URL: https://nmetau.edu.ua/file/zbirnik_naukovih_prats_udunt_2024.pdf
10. Fonarova T.A., Petrenko V.O., Bushuiev K.M. Design management in the context of innovation marketing. Marketing of innovations. Innovations in marketing. Materials of the International Scientific Internet Conference (December, 2022). Bielsko-Biala: WSEH, 2022. C. 20–23.

11. Fonaryova T.A., Petrenko V.O., Bushuev K.M., Bushuev M.B. The system of organization laws in the activities of enterprises providing engineering services. Management of projects in the development of society. Topic: "Management of projects of the post-war development of Ukraine": theses of reports. Ans. for issue S. D. Bushuev. Kyiv: KNUBA, 2023. 273 p. P. 196–198.
12. Bushuev S. D., Sukach S. M., Bushueva V. B. Inspiring management of innovative projects. Management of the development of complex systems. Kyiv, 2022. No. 51. P. 12 – 19, DOI: [dx.doi.org\10.32347/2412-9933.2022.51.12-19](https://doi.org/10.32347/2412-9933.2022.51.12-19)
13. Usov M.A., Havrys O.O., Suslikov S.V. Investment attractiveness of innovative projects. Priazov Economic Herald. Issue 2(13), 2019. URL: http://pev.kpu.zp.ua/journals/2019/2_13_uk/32.pdf
14. Butnik-Siverskyi O.B. Development of intellectual capital and its components in the aspect of processes of intellectualization, capitalization and transformation. Materials II All-Ukrainian. science and practice conference "All-Ukrainian seminar on the problems of the economy of intellectual property (Kyiv, May 24, 2019)" NDC of forensic expertise on intellectual property of the Ministry of Justice Kyiv: FOP Kravchenko Ya.O., 2019 146 p. P. 9 – 46.
15. Bushuiev M.B., Petrenko V.O., Fonarova T.A. Directions of formation and capitalization of intellectual capital of engineering companies. Project and logistics management: new knowledge based on two methodologies. Volume 7: collection of scientific works. Odesa: KUPRIENKO SV, 2023 198 p.: illustrations, tables. (Series "Project and logistics management: new knowledge based on two methodologies", Volume 7). P. 66–69. DOI: <https://doi.org/10.30888/2616-8936.2023-07>
16. Sobko O. M. Intellectual capital of the enterprise: conceptualization – functioning – development [text]: monograph. Ternopil: Krok, 2014. 360 p.
17. Bushuiev M.B., Petrenko V.O., Fonarova T.A. Directions of investment in the intellectual capital of the enterprise providing engineering services. Economic cybernetics: tools and methods of research and organization of economic processes: collection. of science work for mother All-Ukrainian Internet Conference, Dnipro, March 1–2, 2024. Dnipro: UDUNT, 2024. 219 p. P. 95–100. URL: https://nmetau.edu.ua/file/zbirnik_naukovih_prats-2024.pdf
18. Bushuiev M.B. Conditions and factors for increasing the organizational capital of the enterprise. Young Academy – 24. Volume II: coll. theses add. International science and technology conf. students and young scientists (Dnipro, May 23–24, 2024). Dnipro: UDUNT, 2024, 208 p. P. 191.
19. Fonarova T., Bushuiev M., Petrenko V., Bushuiev K. Forming the investment attractiveness of innovative investment projects on the basis of increasing their commercial potential in the field of engineering services. Information system and innovative technologies in project and program management [Text]: Collective monograph edited by I. Linde. European University Press. Riga: ISMA, 2023. 317 p. R. 150–160. DOI: <https://doi.org/10.30837/MMP.2023>
20. Tugai O.A., Vlasenko T.V. General basics of engineering activity and its current state in Ukraine. New technologies in construction. No. 34, 2018. URL: <https://journals.indexcopernicus.com/api/file/viewByFileId/636180.pdf>