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# Reference Design for International High-Tech IT Business Entities

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ABSTRACT. This article is devoted to the development and scientific justification of the authors` concept of a flexible reference design for entities in the international high-tech IT business. The importance of the functioning and development of a powerful and dynamic sector of high-tech IT companies within the global economic system, in the context of current development conditions, is becoming critically important, as their activities have a significant impact on the competitive potential of individual countries and/or regions of the world within the global framework. In the era of Industry 4.0, the phenomenon of high-tech companies is understood in a fundamentally new way. In post-industrial national economies, the sector of high-tech IT companies is usually regarded as a sphere characterised by multi-vector utilisation and dependence on specialised means of production — knowledge and human resources — which are constantly generated and enable not only individual business structures to compete with one another, but also have a positive impact on other spheres of global civilisation (traditional industrial sectors, levels of education, science, etc.). Most previous studies of the high-tech sector have focused on aspects related to the methodology for measuring research and development activities and their practical outcomes, the volume, structure and sources of funding, institutional decisions and the role of the state in stimulating scientific and technological progress. At the same time, a generally accepted understanding of a high-tech IT business entity and the criteria for its classification has not yet been established. This article is an attempt to define the economic nature of a high-tech IT company and its qualitative characteristics. Based on the analysis conducted, the definition of a high-tech IT business entity has been expanded and refined; taking into account the intensity of innovation and research and development activities, a classification of these business structures has been proposed. Taking into account the identified characteristic properties of entities in the international high-tech IT business, a reference design has been developed for them, which takes into account such aspects as: the management model in terms of management objects; the principles of operation and the typological structure of business activities for this type of entity.

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## Introduction

In the context of the Fourth Industrial Revolution, the global economy is experiencing an unprecedented wave of innovation, accompanied by the dynamization and scaling up of international high-tech IT business activities. In the broadest sense, high-tech business (HTB) can be defined as activity focused on combining and transforming factors of production to ensure the output of necessary new economic goods, which, in turn, satisfy society's boundless needs and enable maximum profits to be generated. At the same time, existing official classifications of industrial sectors do not provide a clear answer to the question of whether all companies operating in high-tech sectors can be classified as high-tech business structures. According to Michael Porter, low-tech industries do not exist in principle, but, at the same time, there are technologically conservative companies 'which have failed to introduce world-class technologies and practices into their operations with the aim of increasing their own productivity and innovation'[3].

High-tech businesses are becoming the driving forces behind innovative breakthroughs and are transforming into the leading core of fundamentally new industries that are currently taking shape. The views of both practitioners and academics, including figures such as Philippe Aghion, Peter Howitt, Robert Lucas Jr. and others, are similar in that it is precisely the international high-tech business sector that has become the basis for global innovative development within the context of the Fourth Industrial Revolution, and its direct participants have formed the foundation of the endogenous economic growth model. Thus, in their work, F. Aghion and P. Howitt developed a model of endogenous growth based on the process of 'creative destruction'. The scholars explained how high-tech firms displace obsolete technologies, ensuring continuous economic renewal[4]. Nobel laureate R. Lucas demonstrated that the accumulation of human capital (knowledge, skills) by high-tech entities generates positive externalities for the entire economy[5]. In the context of new development conditions, the main principle guiding the activities of high-tech business structures has become strategies of continuous innovation, the application of scientific and theoretical knowledge, a wide range of inventions, new methods, techniques and production technologies, and their adaptation to the market.

At the same time, despite significant theoretical contributions in the field of modelling the impact of the IT factor and recognition of the role of high-tech IT busi-

[3] Porter M. The Competitive Advantages of Nations, Palgrave Macmillan, London. 1998. 855 pp.

[4] Aghion P., Howitt P. A model of growth through creative destruction. *Econometrica*. 1992. Vol. 60, no. 2. pp. 323–351. https://doi.org/10.2307/2951599

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nesses in the context of Industry 4.0, a number of practical aspects remain overlooked by researchers. In particular, modern economic science suffers from a significant terminological and a structural vacuum regarding the precise definition of the nature, boundaries and specific functioning of high-tech IT business entities. Existing approaches often replicate traditional management templates, ignoring the unique intangible nature and dynamics of digital and information assets. The above determines the relevance of this study. Thus, with the aim of overcoming the identified theoretical gaps, this article proposes an author's reference design for high-tech IT business entities. The development of such a reference model will enable the unification of the description of their internal structure, the identification of hidden drivers of efficiency, and the formalisation of algorithms for their scaling in the context of the formation of a global digital ecosystem.

Consequently, ***the aim*** of this study is to develop a reference design for a high-tech business entity, to define its characteristics and criteria, the combination of which allows a company to be classified within this category of business activity.

## Approaches to defining a high-tech IT business entity in the context of the formation of a global digital ecosystem

An analytical review of a wide range of available information sources has shown that authors provide diverse, and at times completely different, definitions of the essence of the category of a high-tech business entity and various criteria for classifying business structures as high-tech. We have identified that, more often than not, authors rely on the criteria and indicators adopted for defining high-tech sectors, adding certain clarifying characteristics to them[6], [7]. At the same time, domestic researchers, notably A. S. Safronova, A. V. Moroz and others, devote their academic work to analysing the properties and characteristics of the main types of IT companies[8]. Thus, the analysis of existing definitions of the category 'high-tech IT business structure' presented in the scientific literature allows us to conclude that there is no single, universally accepted concept of a high-tech company, and that the criteria for identifying a high-tech business structure and classifying a company as one of its entities are diverse and sometimes ambiguous. Consequently, despite a fairly large number of academic works devoted to the study of the phenomenon of high-tech business structures and the fairly widespread popularisation of the term 'high-tech business', questions regarding their identification and introduction into academic discourse as a distinct type of entity within the

[6] Davis, Charles K. *Technologies & Methodologies for Evaluating Information Technology in Business*. Hershey, PA: IGI Global, 2003. ISBN 978-1-931777-48-3. https://dl.acm.org/doi/book/10.5555/958081

[7] Bessant, J. (2003). High involvement innovation. Chichester: John Wiley and Sons.

[8] Safronov A.S., Moroz A.V. 'Analysis of criteria for the classification of IT companies'. *Eastern European Journal of Advanced Technologies*. No. 1/6(49). 2011. pp. 44–45

global business sphere remain unresolved. The lack of a clear definition of the essence of this phenomenon leads to a simplified understanding of its nature and operational characteristics, thereby limiting the strategic and business opportunities of such companies, as well as creating administrative and legal complexities in their management.

The phenomenon of high-tech companies is linked to the fact that their activities are multi-directional and often cross-sectoral in nature. In addition to sector-specific characteristics, every high-tech business structure possesses specific features that set it apart from the rest and make it unique. The resource base for the development of high-tech entities, primarily in the IT sector, is 'the production/generation of ideas', which is significantly less constrained by the exhaustibility of natural resources compared to traditional manufacturing and possesses objective conditions for the application of advanced marketing ('feedback' from end consumers of products and/or software solutions), and is also characterised by a significantly higher degree of autonomy from the global financial market (speculative financial pyramids, so-called 'toxic' financial assets, etc.).

The analysis and systematisation of existing research, focusing on the activities of the World Bank, led to the conclusion that entities of the high-tech IT business coexist, corresponding to different levels of economic development, characterised by a high degree of technological sophistication, yet differing in the level of development of their innovation and research activities. These insights enabled us to develop a matrix of international IT business entities (IITBEs) based on two key criteria: the intensity of innovation and research activities (Table 1).

*Table 1*

**MATRIX OF TYPES OF INTERNATIONAL IT BUSINESS ENTITIES BY DEGREE OF INTENSITY OF INNOVATION AND RESEARCH ACTIVITY**

| Criteria for international IT business entities | | Degree of intensity of scientific activity | |
|---|---|---|---|
| | | ***High*** | ***Low*** |
| Intensity of innovation activity | High | Generative high-tech IITBE | Innovative IITBE |
| | Low | Knowledge-based IITBE | Production IITBE |

*Source:* developed by the authors

The proposed matrix served as the basis for developing a classification of specific features of IITBE functioning, which allows the following groups to be identified.

The first group *(high-tech manufacturing IT business structures)* comprises those involved in the production of high-tech products and/or using high technologies as

part of the production process. At the same time, enterprises of this type either do not engage in innovation activities, or such activities are not a priority. R&D may be carried out, but, as practice shows, it is mainly related to improving the technological process, product quality characteristics, the sales process, etc.

The second group consists of *innovative high-tech IT companies*, which should be distinguished from purely innovative entrepreneurial entities. According to the Oslo Manual[9], an innovative company is an organisation that, over the period under review (usually three years), has introduced at least one technological innovation (a new or significantly improved product, or a new or significantly improved technological process) to the market. At the same time, such a business entity may not incur R&D costs, and its objective is to achieve the benefits of implementing a specific innovation[10]. This is a company with high potential for creating, implementing and popularising various innovations.

Currently, two approaches to interpreting the economic nature of innovation are dominant. The first emphasises the actual (outcome-based) type of innovation, involving changes in production which, in turn, lead to the creation of a new product[11]. The other approach emphasises the process-oriented importance of innovation, encompassing all processes of creative thinking aimed at the application and use of improved solutions in technology, organisation and social life. In this context, a business is considered innovative provided it also engages in innovative activities. An innovative high-tech IT company is capable of generating and assimilating innovations, is creative and constantly adapts to changes occurring in the global business environment[12], and strives to achieve leadership in the information technology sector[13]. In our view, the most important characteristics of an innovative high-tech IT company, which set it apart from other players in the global business arena, are:

– the company's large-scale research and development activities and the allocation of significant financial resources to research and development;
– the ability to constantly generate ideas, innovations and creativity[14];
– the regular introduction of new scientific and technical solutions;
– the staff's high capacity to create and practically implement innovations;
– a high capacity to adapt outsourced innovations (procurement of new product designs or technologies);

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[9] The Oslo Manual (methodology) sets out methodological recommendations for the statistical study of innovation activity (technological innovation) using a subject-based approach (the subject of the study is the innovation activity and innovative behaviour of the business structure as a whole) among industrial companies and in the so-called market services sector. The method was developed by OECD experts and published in the international methodological guide 'Oslo Manual' *(author's note)*.

[10] OECD and Eurostat. *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*. 3rd ed. Paris: OECD Publishing, 2005. https://ec.europa.eu/eurostat/documents/3859598/5889925/OSLO-EN.PDF

[11] Tidd J., Bessant J., Pavitt K, Managing innovation. Integrating technological, market and organisational change, John Wiley & Sons Ltd, 2005.

[12] Kotler, P. (1994) Marketing Management: Analysis, Planning, Implementation, and Control. 8th Edition, Prentice Hall, Upper Saddle River.

[13] Bessant, John R. *High-Involvement Innovation: Building and Sustaining Competitive Advantage Through Continuous Change*. 256 pages. June 2003. ISBN 978-0-470-84707-7.

[14] Ibid.

– a predominant share of new products and/or technologies in the company's total production or service activities;

– the ability to anticipate the future and think long-term, flexibility[15];

– the ability to utilise the company's innovative potential to maintain a competitive advantage based on key competencies;

– effective use of teamwork potential and a commitment to diversity[16].

Furthermore, as analytical studies show, innovative IT companies are far more dynamic than other business structures and demonstrate a productivity level approximately one-third higher (measured by the ratio of value added to the number of employees) compared to non-innovative companies, are larger and, as a result, generate relatively higher value added, have twice the investment expenditure per employee and an investment level (relative to value added) sometimes as high as 40 per cent, and exhibit high volumes of both exports (over 50 per cent) (measured by the ratio of exports to total turnover), as well as very high growth in exports (approximately 7–15 per cent higher than in non-innovative companies)[17].

At the same time, it is worth noting the following: due to the broad interpretation of innovation and sectoral restrictions on the volume of research and development expenditure within the revenue structure (from 8 to 15 per cent in the high-tech sector), it can be argued that *every high-tech company is innovative, but not every innovative company is high-tech,* i.e. a player in the high-tech IT business.

The third group *comprises knowledge-based high-tech IT companies — entrepreneurial structures founded on knowledge,* managing it consciously and systematically. For this type of company, knowledge is a critically important strategic asset. This is precisely why the company strives to manage it as effectively as possible. The professional literature on knowledge management offers many interpretations of the essence of the category 'knowledge', which is due to the existence of various approaches to its interpretation. For example, knowledge is information about a specific context combined with an understanding of how to use it[18, 19]; it is the effect of using information and experience in the thinking process[20]; it is a coherent combination of acquired information, experience and an established system of values[21].

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[15] Tidd J., Bessant J., Pavitt K, Managing innovation. Integrating technological, market and organisational change, John Wiley & Sons Ltd, 2005.

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[21] Davenport T.H., Prusak L., Working Knowledge, Harvard Business School Press, Boston 1998. https://doi.org/10.1145/348772.348775

We propose that the following criteria be used to identify such high-tech companies: the presence of a full R&D cycle and the production of knowledge-intensive products; a high proportion of intellectual property within the asset structure, created specifically by the company; a high proportion of knowledge-intensive products in total production; a significant proportion of highly qualified staff, as well as the presence of scientists and researchers.

Knowledge-based high-tech IT businesses can manage knowledge, independently develop and utilise intellectual resources, or collaborate effectively within creative networks and partnerships (for example, Silicon Valley as a hub for the world's leading IT companies). We have identified the most important characteristics of a high-tech IT company whose activities are knowledge-based:

– it focuses on the development and application of technologies, information and knowledge; it creates, utilises and disseminates new knowledge and skills;

– it challenges stereotypes and constantly adapts its working methods to the current situation, changing its internal organisation;

– its dominant assets are knowledge and intellectual resources, which are constantly evolving and in which investment is made;

– uses experience to create new knowledge and monitor acquired skills; updated experience enables the acquisition of new conceptual knowledge and engagement in experimental activities;

– high tolerance for uncertainty, an atmosphere of creative chaos, and extraordinary events viewed as a source of inspiration;

– the organisation's core values: quality, customer service, diversity, innovation, transparency in interaction;

– collective learning and knowledge sharing, openness to criticism;

– close cooperation with partners based on trust; involving customers in collaboration;

– building competitive advantage based on unique competencies;

– high staff turnover and mobility within the organisation due to job rotation; harmonious cooperation;

– high employee autonomy, underpinned by knowledge and professionalism;

– structures characterised by rapid change that support learning.

It is worth noting that IT companies, as organisations with a priority demand for science and a high level of education among staff and management, which generate, accumulate and disseminate new knowledge, can be defined precisely as business structures whose activities are based on knowledge. Focusing on the continuous process of acquiring, developing and practically implementing knowledge transforms such companies into learning organisations. However, given the specific nature of the high-tech sector, it seems reasonable to assert *that every IT (high-tech) company is a knowledge-based and learning organisation;* however, not every company based on knowledge and learning is a high-tech IT company. This type of IITBE also includes companies which are characterised by both a

high intensity of scientific and research activity and a high level of technological sophistication.

The fourth group comprises generative *high-tech IT companies,* which can be defined as enterprises that generate and utilise modern information technologies. Companies in this group can be characterised as innovative and knowledge-intensive. They simultaneously form the basis of the knowledge management system. Information technology (IT) integrates various technologies (hardware, software, telecommunications, teleinformatics) and is used to obtain, select, analyse, process, store, manage and transfer information to others[22]. A high-tech company must not only utilise new information technologies, as they enhance its efficiency, productivity and flexibility whilst reducing costs, but also act as an active generator of such technologies[23]. At the same time, IT contributes to a qualitative improvement in the flexibility of the organisational structure by flattening it (often through a reduction in middle management)[24]. Advanced information technologies support research and implementation work, which helps to shorten the design phase and time-to-market[25].

In view of the above, high-tech companies should implement appropriate information systems that will ensure the acquisition of knowledge from various sources, its codification, the generation of fundamentally new knowledge, and the expansion of opportunities for its dissemination. In our view, such business systems should possess the following characteristics:

– isomorphism (correspondence of forms) — the provision of information at three levels of responsibility, such as operational control, managerial control and strategic planning;

– structural and functional flexibility — this allows hardware and software solutions within the technical and functional structure to be adapted to the company's needs during system implementation and enables the system to be modified and dynamically configured in line with the changing requirements and needs generated by the business environment;

– thematic data storage — data on a single topic, generated by different systems, is stored in one place, and its updating involves modifying and adding information;

– data analysis and knowledge extraction — identifying relationships, summarising data, classifying and grouping, and identifying data redundancies;

– security — access to information is protected and depends on the user's authorisation level;

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– subscription — the user automatically and regularly receives information they have selected themselves;
– support for working groups — joint publications, document collaboration, discussion lists, online conferences

An important aspect in this context, particularly when building a knowledge management system, is the selection of appropriate IT tools, the most important of which are: business analytics, group work/collaboration, operational process/business process management — BPM, customer relationship management — CRM, document management/content management, etc. Given the important role of information systems in knowledge management and decision support systems, in generating innovation and supporting research activities, and taking into account the fact that the high-tech sector has a high demand for science and information, it seems correct to assert that every entity in the high-tech IT business makes extensive use of modern information technologies and may act as their creator; however, not every company that uses advanced information technologies is a high-tech IT company.

## A comparative qualitative analysis of types of entities in the international high-tech IT business

Each of the groups of international IT business entities we have identified possesses certain qualitative characteristics, which represent a unique response to the diversity of approaches to the origin, generation and practical implementation of technologies and knowledge by these companies. We propose the following criteria for differentiating entities in the international high-tech business sector: business objectives, organisational design, personnel, innovation and research activities, finance and capital structure, production processes, branding and commercialisation. A comparative analysis and qualitative description of the various types of international high-tech businesses, based on the distinctive features of their operations, is presented in Table 2.

## Indicators and reference design of high-tech entities in the international IT business

An analytical review of all the groups of high-tech IT business entities we have identified has shown that each type has its own unique characteristics. At the same time, it is precisely the innovative high-tech IT business entities that are of the greatest significance. Analysis of various information sources, including scientific studies by various researchers dedicated to the problem of identifying high-tech business entities, has enabled us to identify a set of indicators that significantly differentiate them from traditional manufacturing or service enterprises and allow us to determine whether a business structure belongs to this group of companies (Table 3).

*Table 2*

**COMPARATIVE QUALITATIVE CHARACTERISTICS OF DIFFERENT TYPES OF IITBE**

| Industrial IITBE | Innovative IITBE | Knowledge-based IITBE | IITBEs that generate and utilise IT technologies (generative) |
|---|---|---|---|
| OBJECTIVE: TO CREATE COMPETITIVE PRODUCTS | | | |
| Methods and tools for achieving the objective | | | |
| High technological sophistication of business processes | Technological innovation | Generation, practical implementation, capitalisation and dissemination of new knowledge and information | Knowledge, information and the technological innovations based on them. |
| A key factor driving the company's development | | | |
| Capital, investment in production | Innovation-driven activities (technological innovations), investment in innovation | Intellectual property. Prioritising investment in science and knowledge | Innovative activity and intellectual property. Investment in innovation, science and knowledge |
| ORGANISATIONAL DESIGN | | | |
| Prevalence of traditional organisational structures | Flexible organisational structures | Dynamic organisational structures with a high degree of functional flexibility. High staff turnover | A dynamic organisational design characterised by a high degree of functional flexibility. High staff turnover |
| STAFF | | | |
| Highly qualified production and engineering staff. | A high proportion of staff involved in innovation activities. Highly qualified production and engineering staff. | A high proportion of research staff. Highly qualified production and engineering and technical staff. | High proportion of research staff and employees engaged in innovation activities. Highly qualified production and engineering and technical staff. |

| INNOVATION AND RESEARCH ACTIVITIES | | | |
|---|---|---|---|
| No innovation activity. R&D activity is underdeveloped and leads to minor improvements that do not constitute innovations | Having an in-house R&D department is not mandatory. Intensive innovation activity. Technological innovations are mandatory. A high proportion of technological innovations, not so much those created as those implemented, including those acquired externally | The company must have its own R&D department. Low intensity of innovation activity | The company must have its own R&D department. Intensive innovation and scientific activity. The presence of technological innovations is mandatory. |
| FINANCE AND CAPITAL STRUCTURE | | | |
| High proportion of expenditure on improving production technologies, product quality and equipment. High proportion of added value attributable to depreciation | High proportion of expenditure on innovation. Significant proportion of intellectual assets in the capital structure. Very high proportion of added value attributable to innovation | High level of expenditure on R&D. High proportion of knowledge and intellectual property assets in the capital structure. Very high proportion of value added generated through scientific research. | High level of expenditure on scientific and innovative activities. High proportion of knowledge and intellectual property assets in the capital structure. Very high proportion of added value generated by scientific research. |
| PRODUCTION PROCESS | | | |
| The production process and products are characterised by a high level of technological sophistication. Continuous quality improvement | The production process and products are characterised by a high level of technological sophistication. Continuous quality improvement | The production process and products are characterised by high technological sophistication. Continuous quality improvement | The production process and products are characterised by high technological sophistication. Continuous quality improvement |
| BRANDING AND COMMERCIALISATION | | | |
| Developing interaction with consumers to identify their needs | Developing interaction with consumers to identify/generate new needs and ways of meeting them | Developing interaction with consumers to identify/generate new needs and ways of meeting them | Developing cooperation with consumers to identify/generate new needs and ways of meeting them |

*Source:* developed by the authors.

*Table 3*

**INDICATORS FOR DETERMINING WHETHER A BUSINESS STRUCTURE BELONGS TO THE GROUP OF HIGH-TECH ENTITIES IN THE INTERNATIONAL IT BUSINESS**

| Characteristics | Indicators |
|---|---|
| High level of technological sophistication | High proportion of R&D expenditure, significant proportion of highly qualified staff |
| Vector of innovation activity | Presence of technological innovations: product-based, process-based; high risk associated with innovative products; high proportion of intellectual property in the asset structure. |
| Knowledge intensity | Presence of advanced R&D at all stages of the product and company life cycle; high proportion of intellectual property in assets; high R&D effectiveness; full 'research — development — production — market launch' cycle |
| Other qualitative characteristics of a high-tech IT business entity | Significant importance of non-price competitive factors; rapid adaptation to external changes; high share of added value; high quality of resources; close interconnection between science and business activities; focus on an innovative vector of development; high level of internal staff turnover; high rate of renewal of fixed assets; development of long-term relationships with consumers; uncertainty is viewed as an opportunity for further development |

*Source:* developed by the authors.

Based on the results of the analysis of existing approaches to identifying entities in the high-tech IT business sector, whilst taking into account their identified characteristics, an original algorithm for determining this type of business structure has been developed. Thus, using the method of formal logic, an initial definition of IITBE was formulated — as a type of business structure characterised by a high level of technological sophistication, the presence of technological innovations, highly qualified personnel, and a significant share of intangible assets in the capital structure. Based on the initial definition of the IITBE phenomenon and the apparatus of dynamical systems theory, three key characteristics were identified: development, high technology, and innovation. The use of the convolution method (functional analysis) enabled us to formulate a final definition of this category of business entities (Fig. 1).

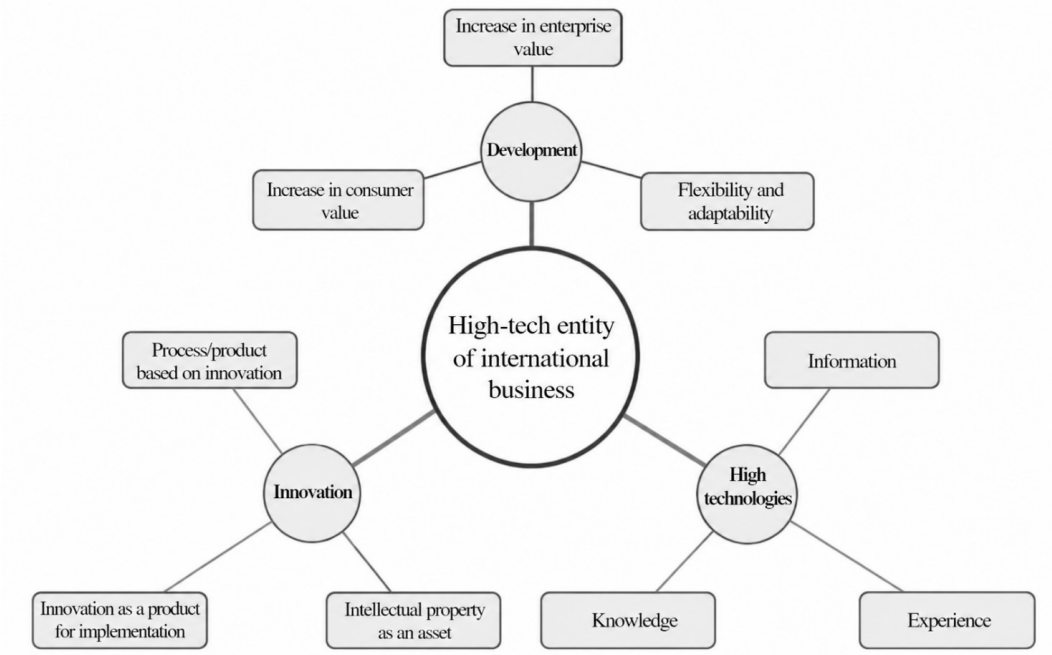


Fig. 1. Decomposition of the basic categories of the concept of 'high-tech international IT business entity'

According to the author's definition, the essence of a high-tech IT business entity is a company that conducts business activities based on the use of high technologies, which in turn reflect a system of knowledge, experience and information, realised through the generation and/or practical implementation of process and/or product innovations to create a sustainable competitive advantage that guarantees high product value, growth in the company's market value, and is characterised by flexibility and adaptability to both exogenous and endogenous transformations. A reference design for a high-tech international IT business entity has also been developed, taking into account such features as: the management system, primarily those aspects relating to management objects and the principles of operation of this type of business entity. The reference design of the high-tech international IT business entity is shown in Fig. 2.

Thus, the reference design we propose is a model of business system architecture and comprises standardised structures, processes, technological and managerial solutions, the combination of which allows a participant in international business activities to be classified as a high-tech IT business entity. An integral component of constructing such a design is the references (reference points), which serve as an empirical and factual basis and are specific examples of *best practices* that synthesise the reference design, transforming it into a comprehensive matrix of high-tech entities in the international IT business.

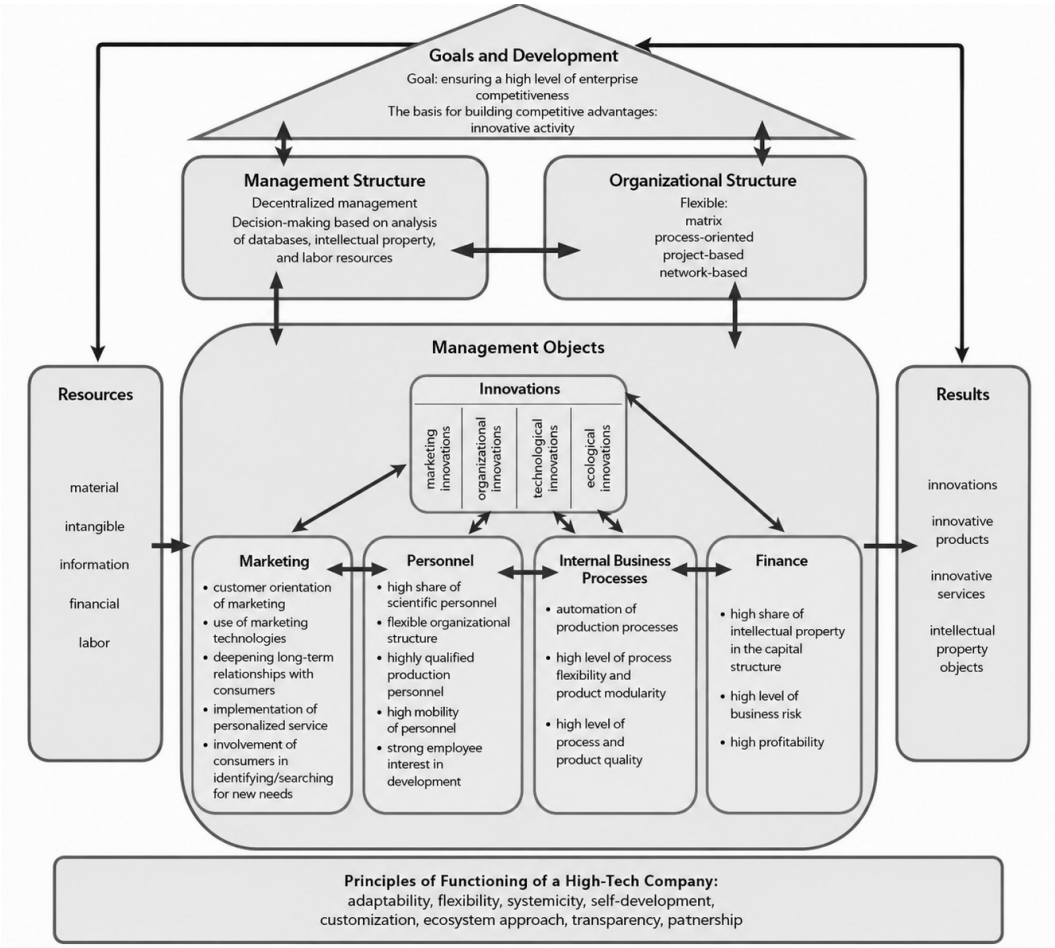


Fig. 2. Reference design for a high-tech entity in the international IT business

## Conclusions

In all sectors of the modern economy, there is a rapid development of high-tech business, whose entities operate within a knowledge-based paradigm and serve as a source of inventions and innovations. Expenditure on research and development in the high-tech sector, its results in the form of technologically advanced products and solutions, and their subsequent integration into the production process of traditional goods and services determine the efficiency of the entire global economic system. In contemporary methodology, there is, on the one

hand, a diversity of approaches and, on the other, a fragmented conceptualisation of high-tech companies; in particular, there is no generally accepted understanding of the entity of the high-tech IT business or criteria for its identification. The authors have proposed a classification of high-tech business entities that takes into account the intensity of innovation and research and development activities. Four groups of high-tech IT businesses have been identified and characterised, namely: industrial, innovative, knowledge-based, and those that generate and utilise IT technologies. Taking into account the identified characteristics, a reference design for a high-tech IT business entity has been developed, which accounts for the main features: the management system in terms of management objects; the principles of operation and business activity of this type of entity.

Thus, the presented results systematise existing research, expand and refine the category of high-tech IT business entities. The identified features of the functioning of this type of business entity provide a more accurate understanding of its economic nature, which in turn contributes to improving the management efficiency of such companies and ensuring their sustainable competitiveness.

*This article was translated from its original in Ukrainian

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