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Chapter 1 Theoretical basis of support of processes of interaction between consumers and international producers of goods in the energy industry

(title, the deadline for submission)

Chapter 1 deals with sectoral state of development and trends in the vital activity of enterprises, problems and prospects of the development of industrial enterprises

(the content of concrete tasks to the section to be performed by the student)

Chapter 2 Organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry

(title, the deadline for submission)

Chapter 2 deals with value-oriented management of marketing innovation activities of enterprises based on a stakeholder approach, organization of the implementation of the budgeting system within the framework of the development of strategic guidelines for the development of manufacturing enterprises

(the content of concrete tasks to the chapter to be performed by the student)

Chapter 3 Development of support of processes of interaction between consumers and international producers of goods in the energy industry

(title, the deadline for submission)

Chapter 3 deals with assessment of co-compliance risks of energy products by the method of pairwise comparisons, development of interaction between consumers and international producers of goods in the energy industry

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ABSTRACT

of Master's level degree qualification paper on the theme
«Organizational and economic support of processes of interaction between consumers
and international producers of goods in the energy industry»
student Semibratov Volodymyr Serhiyovych

The main content of the master's level degree qualification paper is set out on 49 pages, including a list of used sources of 51 titles, which is placed on 4 pages. The work contains 5 tables, 1 formulas, 2 pictures.

The purpose of the master's level degree qualification paper is research of organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry.

To achieve this goal and objectives there were used following scientific methods of research: systematization and generalization (by theoretical justification - the concept of competitive ability), comparison (in the process of organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry), systematic analysis (during the study of the concept competitive ability at different levels).

The information base of the master's level degree qualification paper is statistical reporting, periodical literature, educational literature, reports.

The market environment in which domestic economic entities operate is notably sensitive to the political, social, and economic processes ongoing in our country. Among the key factors negatively impacting the development of industrial sector business structures, inconsistencies in implementing economic reforms by the state, instability in the financial sector, and perpetual contradictions in existing legislation should be highlighted. Undoubtedly, these factors significantly affect the financial outcomes of industrial enterprises.

Promoting the activation of industrial enterprises' production activities should be a priority in the state's economic policy, as the prospects for the overall development of the national economy depend on it. However, the fundamental causes hindering innovative development in domestic enterprises include severely limited budgetary possibilities and the unattractiveness of investments in the Ukrainian economy in terms of both domestic and foreign investment inflow. Additionally, the formal focus on an innovation-based development model barely allows addressing current, let alone prospective, socio-economic challenges of transitioning to an innovative economy, as required by modern global socio-economic trends.

The relevance of these considerations lies in the comprehensive characterization of the innovation potential of the national economy, particularly the industrial sector, under contemporary conditions. This potential represents a collection of resources directed towards enhancing its competitiveness under specific internal and external innovation environment factors. Undeniably, within the modern economic landscape, the innovative component stands as the most substantial means of maintaining the competitiveness of economies in most developed countries with a market-oriented economic model.

The main scientific results of the work are as follows: the theoretical provisions of organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry have been researched, organizational and economic support for evaluating organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry has been formed, practically of organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry.

According to the author's approach, the stakeholder-oriented concept of value-based management of marketing innovation activities within an enterprise is grounded in value maximization for all enterprise stakeholders. It operates on three levels based on the representation of interests from key stakeholder groups: stakeholders involved in strategic enterprise management (principals), stakeholders involved in current enterprise management (agents), and stakeholders whose interests are considered in managerial decision-making.

At the strategic management level (satisfying the interests of principal stakeholders), a classic stakeholder approach is applied, considering the interests of the enterprise's shareholders regarding market capitalization growth and the share price of the business entity. When managing marketing innovation activities at the current management level, applying the stakeholder concept involves considering the interests of agent stakeholders (enterprise managers at higher and middle levels). Assessing the performance of marketing innovations at this stage involves indicators such as profit growth and net cash inflows resulting from entering new markets, introducing innovative products to the market, enhancing the company's competitiveness, and more.

Tasks of the work are explore: to investigate the theoretical support of organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry, to form organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry, to improve the elements of organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry.

Research methods - the systematic method - when researching the theoretical provisions of the consumers and international producers of goods in the energy industry, the structural method when forming the methodological apparatus of the organizational and economic support of processes of interaction, the method of abstractions - when forming research conclusions, the statistical method - when researching organizational and economic support of processes of interaction

Approval of work materials – carried out in the work of companies of the production sector in the construction of strategic and tactical planning of international economic activity

KEYWORDS: organizational and economic support, processes of interaction, consumers, companies, goods in the energy industry.

Year of Master's level qualification paper fulfillment is 2023.

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CONTEST

Introduction	7
1 Theoretical basis of support of processes of interaction between consumers and international producers of goods in the energy industry	9
1.1. Sectoral state of development and trends in the vital activity of enterprises	9
1.2. Problems and prospects of the development of industrial enterprises	12
2 Organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry	18
2.1. Value-oriented management of marketing innovation activities of enterprises based on a stakeholder approach	18
2.2. Organization of the implementation of the budgeting system within the framework of the development of strategic guidelines for the development of manufacturing enterprises	24
3. Development of support of processes of interaction between consumers and international producers of goods in the energy industry	31
3.1. Assessment of co-compliance risks of energy products by the method of pairwise comparisons	31
3.2. Development of interaction between consumers and international producers of goods in the energy industry	38
Conclusions	42
References	44

Introduction

Justification of the choice of topic and its relevance. It is important to note that among the negative factors affecting the marketing activities of industrial enterprises in Ukraine, we should include: inflation risks, reduction of working capital, decreased business activity among small enterprises, risks of further price increases for energy resources and utilities, and increased unemployment rates.

Degree of the studied problem. Study organizational and economic support of processes of interaction

Object of research is organizational and economic support of processes of interaction.

Subject of research is consumers and international producers of goods in the energy industry

The purpose of the work is research of organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry

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1 Theoretical basis of support of processes of interaction between consumers and international producers of goods in the energy industry

1.1 Sectoral state of development and trends in the vital activity of enterprises

In the current transformative changes within the domestic economic system, there is a noticeable reorientation towards regional economics, an exploration of problematic issues, strategies, and algorithms for the effective utilization of existing opportunities. In such circumstances, particular attention is deservedly given to the industry and the state's industrial policy.

In recent years, three understandings have emerged regarding the category of industry development: quantitative, qualitative, and structural. According to the first - quantitative - development involves an increase in the scale of production; according to the second - qualitative - development entails changes in the average and individual benefits, consumer qualities, and qualitative characteristics of specific elements within the technological cycle; according to the third - structural - development involves changes in the structure and composition of elements [1].

The analysis of the structure of Ukraine's industry by types of economic activities indicates that the extraction and processing industries together constitute 86.39% of the total industrial production volume. Meanwhile, the supply of electricity, gas, water, and other industrial sectors accounts for 13.61% of the total volume of realized production.

The primary criteria for assessing the effectiveness of industry development primarily involve analyzing the dynamics of indicators such as production indexes, profitability, return on investment, productivity, and others. Figure 1.1 illustrates the chain rates of change in GDP and industrial production volume.

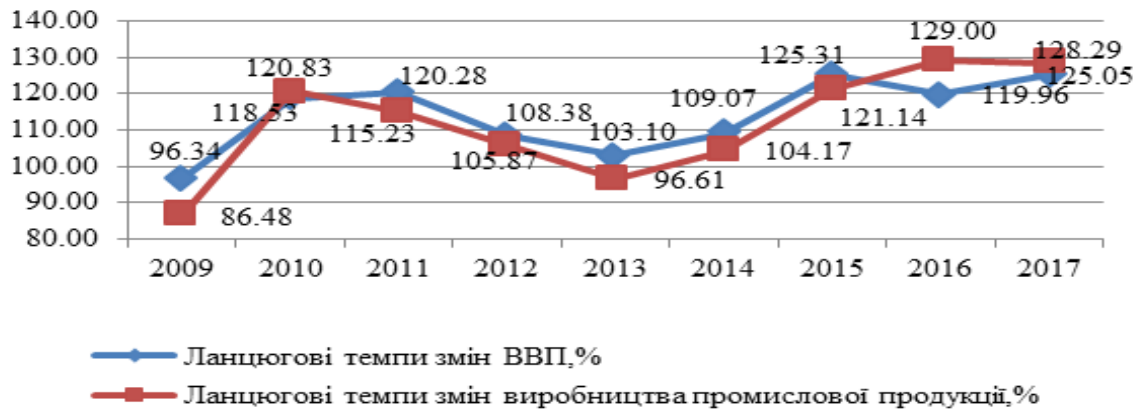


Fig. 1.1. Chain rates of change in GDP and industrial production for 2009-2017, % [51]

Researching the dynamics of structural shifts allows conclusions to be drawn regarding the effectiveness of the food, beverage, and tobacco products manufacturing sector in a specific region and to forecast future structural proportions within the industry. Further investigation aims to calculate the coefficient of growth outpacing of the food industry from 2007 to 2017 across different regions of Ukraine. This assessment will help evaluate the level of uniformity or diversity in the growth of food production volumes. The coefficient of regional advancement is proposed to be computed according to formula 1 [2]. (Sychevskyi, 2005).

$$K_{PB} = \frac{T_i^{cep}}{T_{\Sigma}^{cep}} * 100, \quad (1.1)$$

Where:

T_{regional} - the average growth rate of the industry's production volume in the i -th region;

T_{total} - the average growth rate of the industry's output overall.

If $K_{PB} > 101\%$, the region can be classified as a region with accelerated development (avant-garde regions); within the range of $99 \leq K_{PB} \leq 101$, it is a region with average development (arrière-garde regions); if $K_{PB} < 99$, it indicates a region with decelerated development (outsider regions). The following conclusions can be drawn: firstly, the calculations demonstrate disparities in the development of the food

industry across regions, with fluctuations ranging from 2.75 times (in 2015) to 1.38 times (in 2017).

It is important to note that this does not indicate a decrease in the level of differentiation or a reduction in the production volumes of outsider regions. Instead, it signifies a slowdown in the growth of production in arriè-re-garde regions within the national economy's food, beverage, and tobacco product manufacturing sector.

Secondly, the highest values of the regional advancement indicator in food industry production are observed in Kirovohrad (106.69%), Lviv (105.93%), and Vinnytsia (105.81%) regions. This means that the growth rates of the food industry in these regions exceed the national average by 6.69%, 5.93%, and 5.81%, respectively.

Thirdly, the lowest values of this indicator are found in Donetsk (92.48%), Zakarpattia (93.81%), and Chernivtsi (97.76%) regions.

Regarding Sumy region, it holds the second-to-last position in the overall ranking of food industry production, occupying the 21st position. Its advancement coefficient averages at 98.26% throughout the research period, placing it within the group of regions with decelerated development - the outsider regions.

However, in 2020-2021, due to the economic crisis and a significant decrease in the population's real purchasing power, there was a sharp decline by a factor of 3.8. Nevertheless, starting from 2021, the situation began to stabilize.

The level of profitability in sales remains low, fluctuating within the range of 5-10% (excluding the crisis years of 2020-2021). However, it is noteworthy that compared to the average indicator across the processing industry, it is slightly higher, indicating a higher efficiency in management within this sector.

When assessing the overall prospects for industrial development in Sumy region, it should be noted that, firstly, the demand for industry products remains relatively stable and inelastic for essential goods (bread, sugar, oil, dairy products). Consequently, this encourages producers to focus on product quality and expanding the range of products.

Secondly, limitations on economic ties with neighboring regions of the Russian Federation reduce the industry's export potential. This necessitates seeking new markets in the EU, Asia, and other parts of the world. This shift demands higher qualifications from foreign economic relations departments and increased expenses for marketing strategies.

Thirdly, there's an evident need to expand capacities for processing agricultural products to enhance the efficiency of agricultural enterprises. This, in turn, increases the production volume of food products and intensifies competition in food markets, leading to relatively low production profitability and subsequently diminishing investment attractiveness.

Lastly, the deteriorating demographic situation in the region contributes to decreased demand for industry products, further impacting the industry's prospects unfavorably [3].

1.2 Problems and prospects of the development of industrial enterprises

The market environment in which domestic economic entities operate is notably sensitive to the political, social, and economic processes ongoing in our country. Among the key factors negatively impacting the development of industrial sector business structures, inconsistencies in implementing economic reforms by the state, instability in the financial sector, and perpetual contradictions in existing legislation should be highlighted. Undoubtedly, these factors significantly affect the financial outcomes of industrial enterprises.

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However, in our opinion, the high level of corruption impedes the increase in innovation within the economic processes in Ukrainian society. Research conducted by the international company Price waterhouse Coopers, specializing in consulting and auditing, indicates a significant rise in the level of corruption in Ukraine over the past two years, nearly tripling the global average. According to this study, the prevalence of bribery and corruption in Ukrainian government institutions reached 73% in 2018, compared to 56% in 2016. In contrast, globally, only one in four respondents (25%) reported encountering instances of bribery or corruption.

Meanwhile, in Ukraine, one in three respondents acknowledged that their organizations received offers of bribes within the last two years. Moreover, 12% of Ukrainian respondents reported losses ranging from 1 to 50 million US dollars due to bribery and corruption within their organizations [4].

The Economic and Social Development Forecast of Ukraine for 2019-2021 (hereafter referred to as the Forecast) has been formulated to ascertain potential scenarios for Ukraine's economic development during 2019-2021. It also aims to provide quantitative benchmarks for the implementation of these scenarios as the basis for managerial decision-making. This forecast has been structured based on three scenarios, derived from an analysis of the economic development between 2016 and 2018, the current economic situation, and assumptions that account for the impact of both internal and external factors. In developing this Forecast, various fundamental strategic

documents have been taken into account, including the Medium-Term Priority Action Plan of the Government until 2020, as well as several sector-specific strategic programs, such as the Export Strategy, Poverty Alleviation Strategy, and Small and Medium-Sized Enterprise Development Strategy in Ukraine.

Upon analyzing the sources contributing to the growth of the domestic economy, the authors of the Forecast note an acceleration in investment activities alongside an improvement in the business climate and the maintenance of relative price and exchange rate stability. They highlight a positive indicator, citing an 18% increase in capital investments, in contrast to a 1.7% reduction observed in 2015. Specifically, industrial production volumes have surged by 2.8% [5, 51].

In the following year, 2017, the situation deteriorated due to a significant decline in the extractive industry, indirectly affecting other industrial sectors (primarily metallurgy and mechanical engineering), and the increase in electricity prices. However, the forced adaptation of the economy to the new operating conditions enabled an increase in the production volumes of industrial products by 1.4% [51].

The Forecast also highlights the fundamental challenges of the domestic economy in the contemporary perspective. It acknowledges that "the low level of significant geopolitical, internal political, and socio-economic changes and transformations in the previous years compel to recognize a fundamental change" in economic processes in Ukraine because "a fundamentally new Ukrainian economy is being formed on entirely different principles, the main among which is the breakdown of the economic relations system that was built on corruption and oligarchic financial-industrial elements of the structure. Under such conditions, the strategic task of the authorities is to change the development paradigm and introduce new instruments, establish new relationships, and rules of the game in the market [5, 51].

The renowned scientist V.M. Heyets also believes that for a deeper integration of Ukraine's economy into the global economy, the resistance between the oligarchic alliance and bureaucracy must be overcome. These entities are less interested in changes aimed not only at minimizing the influence of oligarchs on the state of affairs in the economy and politics but also in implementing policies to minimize inequality. This

inequality inhibits economic growth and reduces the role of knowledge (thus, innovation) and poses a threat to deepening not only at the interstate level but also within the country [6, 51].

Overall, due to the general adverse conditions of the entrepreneurial and investment climate in the country, excessive fiscal pressure, and the impact of crisis processes on the real sector of the economy, apart from the slowing pace of industrial production, there is a significant part of the "shadow economy" in Ukraine. In the first quarter of 2018, the level of the shadow economy constituted 33% of the official GDP, which was 4 percentage points less than the analogous period in 2017 [7, 51].

Simultaneously, according to the Ministry of Economic Development and Trade, the dynamics of de-shadowing are restrained by unresolved problems that have a negative impact on the country's overall economic development. These issues include the persistence of substantial challenges to the stability of the country's financial system and the existence of territories outside the government's control, formed during the military aggression on the country's territory. Therefore, further de-shadowing of the Ukrainian economy is possible primarily under the condition of strengthening the investment component of economic growth in the ongoing economic reform processes and increasing the business activity level [8, 51].

Analyzing the long-term prospects of innovation development in Ukraine, among the most challenging issues is the discrepancy between the accumulated scientific and technical potential since the Soviet era and the low productivity of the national economy in the present period. In 2005, Ukraine ranked 23rd in the world in terms of intellectual potential, while in terms of economic competitiveness, it held the 78th position [9] However, within just over a decade, according to the annual Global Innovation Index report for 2017, Ukraine achieved its highest position in the last seven years, ranking 50th globally. It surpassed Thailand and fell behind Montenegro and Qatar. In the group with below-average income levels, Ukraine secured the 2nd position after Vietnam, surpassing Mongolia, Moldova, Armenia, and India. Furthermore, compared to 2016, "our country rose by 6 points, driven by a high coefficient of innovation efficiency, i.e., the ratio of innovation results to innovation resources" [10, 51].

Activation of innovation is one of the crucial factors for structural transformation and accelerating economic growth. However, in Ukraine, the pace of innovation development in the industrial sector is slowing down. The overall negative state of affairs in the sphere of scientific-technological and innovative activities is compounded by the fact that the efficiency of knowledge utilization in Ukraine is 4-5 times lower compared to the corresponding indicator in developed countries. Additionally, the science intensity indicator of GDP in Ukraine is below the legislatively established level (1.7%).

For the industrial sector, this figure is even lower, standing at 0.56% of GDP. Yet, industrial policy should precisely create favorable conditions in Ukraine to activate innovative activities and ensure the competitiveness of production [11].

Among the most critical conditions for the sustainable and proportional development of the state, researchers consider the resolution of energy-intensive production problems and the provision of energy security to the economy. These issues have been (and continue to be) a threat to economic and hence national security [12]. Due to the high level of wear and tear of technological and energy equipment, the use of outdated schemes in metallurgical processes, low utilization of secondary energy resources, and significant energy losses, the Ukrainian metallurgical industry incurs significantly higher specific energy costs for the production of its main products.

A significant obstacle to raising the innovation level in the national economy is the high wear and tear of the mining and metallurgical complex's production capacities, which were around 65% just a few years ago [13].

Statistical data reveals that over the past decade, the level of innovation activity among industrial enterprises remains consistently low and tends to decrease. The prospects for expanding innovative activities rely on the volume of funding allocated for their development. However, the investment potential of the country to create market incentives for an innovation-oriented economy is severely limited. Research findings indicate that large enterprises are most receptive to innovation: among companies with over 5000 employees, 64% were engaged in innovation, while only 17% of those with 50 to 5000 employees pursued innovation [14]. Therefore, large corporate structures,

capable of accumulating significant financial capital, material, and human resources, should play a leading role in financing innovative projects.

Based on a comparative analysis of successful foreign companies' trends and the potential opportunities of domestic enterprises, certain characteristic features of innovative transformations in the development of industrial joint-stock companies were identified by Pankov V. [15]. These include:

- Creating high-quality products for both domestic and global industrial markets.
- Increasing flexibility and adaptability of the enterprise to dynamic changes in the external environment and market conditions.
- Maintaining a high level of business reputation and employee qualifications.

To address the challenges of boosting innovation activity, scientifically substantiated questions regarding business entities' capacity for innovation and their criteria for innovativeness need to be developed and explored.

The conclusions drawn from the conducted research, in our opinion, are as follows: Despite the outlined problems, the innovative component remains the most substantial means of enhancing the competitiveness of domestic industrial enterprises and a vital factor in fostering Ukraine's overall economic growth. Consequently, the key condition for preserving the country's economic security and ensuring its sustainable growth and competitiveness is strengthening the innovation potential of industrial enterprises.

In securing the economic security of the national economy through the innovative potential of industrial enterprises, the identification of threats to economic security must be based on forecasting. Therefore, the development of a system of indicators is necessary to economically substantiate the credibility of this process.

In general, the suggested proposals will enable diagnosing the state of the industrial sector of the national economy based on evaluating its innovation potential. Solving such a task will allow for the development of a mechanism for implementing real innovative development plans for the national economy.

2 Organizational and economic support of processes of interaction between consumers and international producers of goods in the energy industry

2.1. Value-oriented management of marketing innovation activities of enterprises based on a stakeholder approach

One of the main ways to enhance the efficiency of enterprises in the current unstable business environment is the development and implementation of an adequate marketing policy based on the utilization of innovative approaches and principles. Marketing innovations are the key driver ensuring competitiveness for enterprises in both internal and external markets.

The subject of innovations in marketing activities has been the focus of research by numerous domestic and international scholars, including works by [16, 17, 18, 19, 20, 21, 22, 23] and others. In their works, various aspects of the concept of "innovative marketing" and its substance are explored from different perspectives.

The implementation of contemporary marketing policies within industrial enterprises aims at the ultimate goal of increasing the value-based performance of the enterprise. Managing marketing innovation activities within a value-oriented framework involves establishing innovation goals and executing all management functions, utilizing maximization of value growth as the target indicator, and considering the interests of a specific group of stakeholders in the selection of innovative projects and their implementation in the marketing sphere. However, the stakeholder approach to managing marketing innovation activities at the enterprise level remains underexplored, defining the problematic focus of this work.

Analysis of scholarly research demonstrates that the modern development of the value-oriented management concept within enterprises and their marketing innovation activities is influenced by the stakeholder approach, which refers to the theory of interested parties. The multifaceted nature of approaches to enterprise management from the perspective of various stakeholder groups is presented in the works of renowned foreign scholars such as Arnold, Evans, Hall & Oriani, Rappaport, Yang & Chen, Copeland et al. [24-29] among others.

However, while citing the indisputable advantages of the stakeholder management approach, most researchers disagree regarding the identification of all groups of interested parties and defining the role of all stakeholders in the value formation process Kaledonsky, Sitnik, Kharitonov, Plastinin [30-32]. Additionally, there is no unanimity among scholars regarding the selection of indicators characterizing value from the perspective of different stakeholder groups and the factors influencing it. Presently, several approaches to identifying value factors and their impact on stakeholder behavior have emerged in scientific literature. For instance, in works by [27] and, authors assign a pivotal role to financial value factors arising during the movement of operational, investment, and financial cash flows, which align more closely with the interests of owners. Another group of researchers, including Makaryuk, Novikova, Ivashkovska, Koval, Kostel, Shyshova, [33-37] also emphasizes non-financial indicators of value, considering the interests of external stakeholders [51].

Hence, there is a need to consolidate scientific and methodological approaches to value-oriented management of enterprise marketing innovation activities by taking into account the interests of all stakeholders.

The principles of the stakeholder-oriented value-based management concept for marketing innovation activities within an enterprise encompass general principles, the fulfillment of which aims at effective management of the enterprise's marketing policy as a whole, and specific principles related to the application of a value-oriented approach to managing marketing innovation activities [51].

Among the general principles, highlighting the principles of comprehensiveness, flexibility in management, balanced managerial decision-making, priority of strategic goals over tactical ones, and assessment of activity results in achieving strategic objectives is essential. The specific principles include prioritizing intensive value growth factors, balancing the interests of all stakeholders, aiming for sustainable development, competitiveness, and shaping a strategic vision [51].

Based on the synthesis of theoretical principles of enterprise management and scholarly approaches to interpreting the categories of "value-based management," "innovation," and "innovative activity," it is proposed to define the concept of value-

oriented management of marketing innovation activities in an enterprise as a comprehensive set of functions and principles. This management approach is hierarchically structured according to value and time targets in the methodological toolkit for strategic and tactical decision-making regarding the development, implementation, and commercialization of innovations. It ensures corporate value growth while considering the monetized societal value for the enterprise, provided the interests of all stakeholder groups are aligned.

According to the author's approach, the stakeholder-oriented concept of value-based management of marketing innovation activities within an enterprise is grounded in value maximization for all enterprise stakeholders. It operates on three levels based on the representation of interests from key stakeholder groups: stakeholders involved in strategic enterprise management (principals), stakeholders involved in current enterprise management (agents), and stakeholders whose interests are considered in managerial decision-making.

At the strategic management level (satisfying the interests of principal stakeholders), a classic stakeholder approach is applied, considering the interests of the enterprise's shareholders regarding market capitalization growth and the share price of the business entity. When managing marketing innovation activities at the current management level, applying the stakeholder concept involves considering the interests of agent stakeholders (enterprise managers at higher and middle levels). Assessing the performance of marketing innovations at this stage involves indicators such as profit growth and net cash inflows resulting from entering new markets, introducing innovative products to the market, enhancing the company's competitiveness, and more.

The third level of management is the broadest as it encompasses all stakeholders of the enterprise, whose interests are considered in managerial decisions regarding innovations. This includes consumers, employees, suppliers, partners, local communities, the government, and corresponding value metrics used to evaluate the effectiveness of marketing innovations include creating social value from innovations.

Hence, maximizing value at each stage of managing marketing innovation activities within the enterprise, while considering the interests of each stakeholder group, involves increasing created value in the following ways:

Maximizing shareholder capital value through increased share profitability and shareholder capital value for principal stakeholders, the main stakeholder group of the enterprise.

Increasing economic value added, operational and net profit, net cash flow at the level of current management, satisfying agent stakeholders' interests.

Creating societal value (value) by considering external stakeholders' interests in managing innovative activities, resulting in positive external effects.

The schematic conceptual approach to managing marketing innovation activities based on the stakeholder-oriented value management concept is illustrated in Figure 2.1.

The first level of managing marketing innovation activities relates to considering the interests of founders (shareholders, investors) of the enterprise. The influence of shareholders is paramount as they provide the initial financial resources for the enterprise's functioning. Innovative enterprise activities serve as an additional income source for shareholders, providing extra dividend income and increasing the enterprise's market capitalization by enhancing its competitiveness through innovative product launches, improving operational efficiency by enhancing productivity, or employing cost-effective technologies.

However, market reactions to innovation introductions are unpredictable, and forecasting innovation-related profits is uncertain. Innovation activities involve heightened investment risk, leading to increased risk-to-return ratios that investors consider and directly impact their interest in investing in innovation-active enterprises.

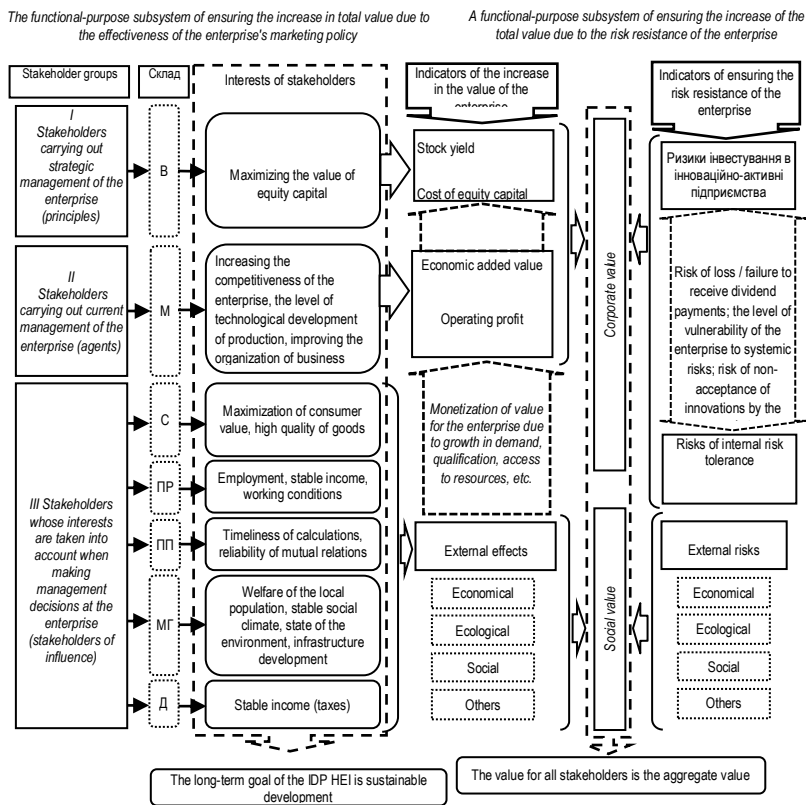


Figure 2.1. Stakeholder-oriented value-based management concept in managing marketing innovation activities of an enterprise.

The current management of marketing innovation activities is directly related to the interests of the next group of stakeholders - the agents. For them, the results of innovation implementation are evaluated based on an analysis of their direct impact on the financial indicators of the company - its revenues and expenses. Simultaneously, the analysis includes the risks associated with innovative activities, considering the probabilistic nature of success and the attainment of expected benefits from their implementation.

It's important to consider that scientific research activities, including the innovation implementation process, require substantial capital investment and are rather long-term. This might negatively impact the profitability and return on investment of innovative projects. Thus, determining the company's ability to generate additional value through innovation despite higher costs is one of the primary focuses of managers within current innovation management.

The subsequent level of managing marketing innovation activities relates to the creation of value (social value of innovations) for external stakeholders of the enterprise, whose interests are taken into account when making decisions about marketing innovations and building a model of two-way interaction between the company and its stakeholders. The groups of stakeholders studied at this stage include consumers, employees, suppliers, partners of the company, local communities, media, and the government.

For each of the identified groups of stakeholders, the creation of value (or worth) resulting from the company's innovation activities depends on various factors. For instance, for consumers, the value of innovations might be associated with an improvement in product quality and its consumer properties. For employees, the value of innovation activity is linked to the implementation of less harmful technological processes, reducing the risks of occupational diseases and improving other working conditions. For suppliers and partners, the impact of innovation activity might manifest in ensuring order stability and supply structure. From the perspective of local communities, media, and regulatory bodies, the overall impact of the company's innovation activity on society is assessed in terms of various economic, social, and environmental effects [37].

The management task concerning innovation from the standpoint of enterprise stakeholders, whose interests are considered in making managerial decisions, involves assessing the created societal value during innovation implementation. Additionally, it includes calculating the aggregate value metric as the sum of societal value and corporate worth. Furthermore, it involves accounting for positive external effects from the company's innovation activities when selecting innovative projects.

Summarizing the aforementioned points, the concept of value-oriented management based on value for all stakeholders most aptly aligns with the objective of harmonizing the interests of all stakeholders and maximizing the value increment resulting from marketing innovation activities within the enterprise. Applying this concept to manage a company's innovation activities represents a multi-level process of

coordinating managerial decisions across stakeholder groups, their interests, value increment indicators, and risk resilience indicators. The aim is to reconcile the two functional-target subsystems that ensure the increase in the company's aggregate value.

The stakeholder-oriented concept of value-oriented management of marketing innovation activities for the enterprise involves segregating into three stakeholder groups and their corresponding management levels: stakeholders engaged in strategic management, those involved in operational management, and stakeholders whose interests are accounted for in managerial decision-making. Each of these identified stakeholder groups utilizes pertinent indicators for value increment and risk resilience. The overarching value metrics for stakeholders encompass corporate worth, societal value, and aggregate worth.

2.2. Organization of the implementation of the budgeting system within the framework of the development of strategic guidelines for the development of manufacturing enterprises

Controlling, as a comprehensive system for managing and providing informational support for the management process within an enterprise, encompasses both its strategic and operational components. When forming the tasks of financial controlling for a manufacturing company, it's practical to specify the direction of individual stages within the controlling process. This approach facilitates standardizing the task list for different controlling objects and responsibility centers involved in executing controlling procedures. Effective functioning of the financial controlling system is contingent upon the comprehensive collaboration and synchronization of activities across various structural units authorized to perform financial management functions. This coordination ensures maximizing the positive impact on managing all business processes and minimizes the time between decision-making, implementation, and the results achieved during execution. Additionally, controlling provides informational and methodological support for the core management functions, including planning, monitoring, accounting, and variance analysis.

Budgeting is regarded as a management technology based on the development of the company's production budget, serving as the primary tool for planning, regulation, control, analysis, and assessment of the enterprise's activities. The chief aim of budgeting is to enhance resource management efficiency and consequently improve the financial and economic outcomes of the company's operations.

The principal objectives of the budgeting system within a manufacturing enterprise include:

- Enhancing managerial efficiency and quality within the enterprise.
- Ensuring transparency of financial and material flows, reducing uncertainty regarding the current and future state of the enterprise.
- Reinforcing financial discipline and resource (financial, material, energy) conservation practices.
- Accelerating resource turnover.
- Improving the processes of operational (management) accounting, control, and assessment of results within responsibility centers and the enterprise as a whole.
- Increasing alignment and coordination among structural divisions of the manufacturing enterprise.
- Strengthening the role of objective factors in assessing the performance of responsibility centers and the enterprise overall.
- Enhancing normative and regulatory frameworks.

The organizational setup of the budgeting system within the enterprise aims to secure strategic development orientations and involves implementing a multi-stage comprehensive model. The functional content of this model is presented in Table 2.1 [38, 51]

Table 3.1 - Functional content of the organization of the budgeting system at the production enterprise [51]

The name of the stage	Task	Result
Stage 1. Development of the concept of budgeting system development at the enterprise	<ul style="list-style-type: none"> – determination of goals and priorities for the development of the enterprise budgeting system; – development of a comprehensive methodology for implementing the budgeting system; – conceptualization of budgeting in the provision on the accounting policy of the enterprise 	<p>Changes to the company's accounting policy.</p> <p>Comprehensive method of implementation of the budgeting system</p>
Stage 2. Development of methodological support for the budgeting system	<ul style="list-style-type: none"> – determination of budgeting forms and tools at the enterprise; – formation of a system of controlled indicators; – development of the limit level of the values of the indicators under control and the ranges of their change 	<p>The system of performance indicators and internal normative methods of their calculation, factor analysis and evaluation, taking into account the specifics of the company's activities</p>
Stage 3. Formation of the organizational structure of the budgeting system	<ul style="list-style-type: none"> – development and formation of the financial structure of the enterprise by centers of responsibility; – establishment of functional links between economic services; – ensuring the budgeting system with qualified personnel; – creation of a system of stimulation and motivation of personnel for the effective implementation of the strategy 	<p>Hierarchical financial structure of the enterprise with centers of responsibility.</p> <p>Regulations on budgeting at the enterprise</p>
Stage 4. Formation of informational and technical support	<ul style="list-style-type: none"> – determination of functional requirements for the automated budgeting system at the enterprise; – development of the enterprise budget system; – development and implementation of an automated budgeting system at the enterprise; – formation of an information base to ensure evaluation of the enterprise's activities 	<p>Automated budgeting system at the enterprise</p>
Stage 5. Monitoring of the activity of the enterprise as a whole	<ul style="list-style-type: none"> – evaluation of the external environment in accordance with the objects and criteria provided by the methodical support; – evaluation of the internal 	<p>Evaluation of the efficiency of the enterprise</p>

and individual divisions	environment; – factor analysis of factors affecting the results of economic activity	
Stage 6. Ensuring the company's development strategy	– planning and forecasting the values of controlled indicators; – determination of quantitative and qualitative goals of the budgeting system in the form of a balanced system of indicators, key performance indicators and limit values of permissible deviations; – establishing the size of the deviations of the actual controlled indicators from the established limit values; identification of the main factors of existing negative deviations; – choosing a strategy for managing the company's activities, choosing tools, methods and mechanisms to ensure the achievement of the target parameters of the company's development	Strategic map of enterprise development. A balanced system of indicators. Identification of problems and weaknesses. Management decisions

The proposed approach to the organization of the budgeting system is a recommendation and involves the implementation of tasks at each stage of the complex model, as well as the display of the obtained results. This approach is recommended for implementation in order to effectively organize budgeting by centers of responsibility and strategic development of the production enterprise [51].

Effective organization of budgeting by centers of responsibility involves the corresponding transformation of the organizational structure of the enterprise. These centers are designed for coordination, distribution of responsibility and motivation of all divisions in achieving the strategic goals of the enterprise. The head of each responsibility center has full control over certain aspects of financial activity, independently makes management decisions and is responsible for achieving planned indicators [51].

Responsibility centers are an integral part of the budgeting system, which are created in a decentralized model of managing the financial and economic activities of the enterprise. Certain management powers are delegated to the heads of these centers.

Determining the scope of rights and responsibilities transferred to the level of structural units requires identifying different types of responsibility centers within a manufacturing enterprise [51].

The allocation of responsibility centers occurs within a specially designed financial structure that does not align with the organization's structural layout. This financial structure comprises areas of financial accountability distributed among the enterprise's structural departments. It determines the system of planned indicators and financial plans, their consolidation into a balanced set of metrics, and the procedure for monitoring their status and providing reports on their execution. It represents a sort of transformation of the organizational structure in terms of generating financial and economic results and the respective accountability of individual divisions within the enterprise.

The primary principle in forming the financial structure is the functional subordination and the duration of the subordination of the enterprise's structural department to the responsibility center. Essentially, this implies a hierarchical relationship between the structural departments and the responsibility centers. Consequently, any organizational changes need to be justified based on their impact on the financial structure of the enterprise.

The tasks involved in organizing a budgeting system within a production enterprise encompass the following aspects:

- Planning the future financial and economic state of the enterprise.
- Structuring and estimating forecasted revenues.
- Establishing the structure and size of planned expenditures.
- Budgeting for the period and ensuring financing from available sources.
- Managing cash flows and controlling their direction and volume.
- Monitoring the enterprise budget's execution.
- Conducting immediate analysis of deviations between actual and planned indicators, assessing their impact on the enterprise's performance, and preparing data for managerial decision-making.

- Evaluating the overall effectiveness of the enterprise's activities and individual responsibility centers.

The aim of implementing a budgeting model in a production enterprise is to create an effective resource management system.

The primary components of this model are:

- Financial structure based on the organizational framework and budgeting entities.
- Budget structure (composition, formats of planning, and reporting documents).
- Budget classification unifying income and expenditure categories, facilitating data consolidation, and allowing comparison across different budget levels.
- Normative-reference information (standards, resource classifiers, etc.).
- Budget regulations and methodological foundations for the proper realization of the budgeting process.

Documenting business processes is essential for the rational organization of the budgeting process within the enterprise. It enables an understanding of all aspects of the enterprise's operations, identification of key processes and associated responsibilities, optimization, determination of efficiency indicators, and continuous process improvement.

We consider it advisable to propose recommendations for the implementation of a budgeting system in a manufacturing enterprise:

1. Based on the organizational structure, study of functional subordination, analysis of document flow, etc., develop the financial structure of the enterprise. Distribute roles and responsibilities within the organizational framework of budgeting at the enterprise.

2. Ensure the implementation of the budgeting system by developing work regulations. The normative legal basis for budgeting should consist of internal regulatory documents of the manufacturing enterprise that regulate the budgetary process, defining:

- participants in the budgetary process, forming the Budget Committee;
- the order and terms of budget task execution;
- target financial indicators, key performance indicators, comprehensive budgets, and other aspects.

3. To encompass all areas of the enterprise's activities with budgeting, specialized working groups should be established. These groups should develop a general strategy for implementing the budgeting system, formalize the main business processes, develop the structure of the enterprise's Budget and formats of budgetary documents, as well as determine budget formation procedures.

Thus, the implementation of a budgeting system involves careful planning, analysis, and control of budgets in accordance with the strategic orientations of the company's development. This allows for identifying the actual structure of revenue and expenses, finding internal reserves for reducing the cost of production, optimizing expenses, improving resource management, accelerating cash turnover, strengthening financial discipline, increasing business efficiency, improving investment attractiveness, and competitiveness of the enterprise, and more.

3. Development of support of processes of interaction between consumers and international producers of goods in the energy industry

3.1. Assessment of co-compliance risks of energy products by the method of pairwise comparisons

The term "compliance" emerged relatively recently within the legal framework of Ukraine, primarily within the banking sector. Typically, this term isn't used in isolation but rather is directly related to other conceptual categories. Phrases like "antimonopoly compliance," "anticorruption compliance," "compliance risks," "compliance control," and so forth are used. The implementation of this terminology occurs through legal acts of relevant executive authorities of Ukraine, specific departments, as well as at the local level within corresponding financial and business structures [51].

Compliance risk refers to the risk of legal sanctions or penalties from regulatory bodies, significant material or financial losses, and reputational damage for a manufacturing or financial organization due to its failure to comply with laws, instructions, rules, self-regulatory organization standards, or codes of conduct related to banking activities. To assess the consequences of compliance breaches, the compliance control department and internal auditors need to conduct the following [51]:

a) *Qualitative assessment of potential (actual) consequences* of compliance breaches. This qualitative assessment contributes to a logical understanding of the severity of circumstances resulting from compliance breaches and is expressed in changes to the image, reputation, investment attractiveness of the enterprise, etc.

b) *Quantitative assessment of possible (actual) consequences* of compliance breaches. This assessment involves calculating the economic loss and economic benefit from the implementation of compliance breach schemes. It's worth noting that ranking these assessments allows the head of the compliance control department, in the process of preparing an audit report, to identify the most significant causes and factors influencing compliance breaches within the corporate governance system of the enterprise.

The issue of assessing compliance risk regarding the deterioration of market conditions for technological products across different commodity markets has already

been investigated by economists. In this regard, it is worth mentioning the scientific developments of P. Raikhlin , Z.V. Herasymchuk and O.V. Koshchiy, P.G. Pererva, D. Kotsiski , M. Veres , Shomoshi , M. Sikorska , V.L. Tovazhnyansky, S. Nagy [39-44], among others. However, further refinement is needed in the development process of theoretical and methodological-applied aspects concerning the formation and assessment of the level of compliance risk in the functioning of a company's target market and identifying reserves for its reduction.

In our opinion, there are several reasons contributing to the emergence of market-specific compliance risks for any industrial product. Modern market researchers [42-44] primarily attribute them to:

- Leakage of confidential information due to the fault of employees of the producing enterprise or as a result of industrial espionage by competitor companies.
- Deficiencies in marketing policies, involving incorrect selection of target markets, inadequate or incorrect competitor information and underestimation (or overestimation), insufficient consideration of changes in the preferences of key consumers, etc.
- Delays in implementing innovations compared to competitors due to a lack of necessary funds for research and development work and the adoption of new technologies.
- Unfair competition by competitors, employing unauthorized competitive practices.
- Emergence of substitute product manufacturers from other industrial sectors entering the market.
- Competitors achieving higher energy efficiency indicators in their products, reducing energy consumption, and expanding and improving the consumer qualities of the product.

The assessment of market-specific risks in the operation of the domestic asynchronous motors market was carried out by the author through a survey of a group of experts (leading experts of JSC "Ukrelectromash," JSC "Electromashina," JSC "Electromotor"), to whom a specific set of factors was proposed as carriers of market risk (see table 3.2) [51].

Table 3.2 - Compliance risk factors in the Ukrainian asynchronous motor market [51]

Code	Name of the factor	Note
F1	Artificial worsening of the situation in the nationwide Ukrainian market	The activities of all types of markets are closely related
F2	Disadvantages of corrupt legislative provision of market processes in Ukraine	Transparency and logic of market legal norms
F3	The emergence of a corrupt shortage of electric energy for the production needs of consumers of electric motors	Without electricity, the engine becomes useless
F4	Emergence of a false alternative to asynchronous motors (reduction of market capacity)	This is one of the integral risk factors
F5	Increasing the share of imported engines on the Ukrainian market at dumping prices	Imports displace the Ukrainian producer
F6	Increasing political and shadow instability in Ukraine, increasing level of corruption	Political risks directly affect the economy
F7	Propaganda of low quality asynchronous motors of domestic production	Quality is an important economic factor
F8	Increasing fiscal pressure from the state on engine manufacturers	There may be unforeseen consequences
F9	Customs difficulties with ensuring the production of engines with high-quality components and materials	Leads to a reduction in production
F10	Impact on changing preferences of target consumers in favor of imported engines	It leads to a change in the market structure in favor of imports
F11	The increase in the cost of domestically produced engines due to the presence of corrupt practices	It leads to an increase in price and a decrease in sales
F12	Disorder in the work of the banking sector (difficulties in obtaining loans)	Difficulties in the production and sale of engines
F13	Reduction in export volumes of domestic asynchronous motors	Supply growth in Ukraine (consumption)
F14	Absence or reduction of state support for engine production	Difficulties in innovation policy
F15	Deterioration of market mechanisms of production and	Leads to deterioration of

	sales of products	the market situation
F16	Corrupt dishonesty of trading partners	Leads to market disruption

Experts were asked to assess the importance of risk factors using a paired comparison method for all 16 identified factors. This method involves determining the factors' ranking by their level of influence on deteriorating the market conditions without assigning specific weights to them.

During this assessment, the paired evaluation was conducted based on specific criteria or assessments [45-46], the breakdown of which is presented by us in Table 3.3.

Table 3.3-Criteria for paired expert assessment of compliance risk factors when evaluating the market condition level of asynchronous electric motors [51].

Rating	Prerequisites for issuing this assessment by an expert
«1,0»	It is displayed when the factor specified in the column has, in the opinion of the expert, a greater degree of risk (priority of the column) than the factor specified in the row
«0,0»	Issued when the factor specified in the column had, in the opinion of the expert, a lower degree of risk compliance (row priority) than the factor specified in the row
«0,5»	It is displayed when the factors in the column and in the row, according to the expert, have equality of risk compliance (equality of risk compliance factors)

Recommendations from all 16 experts are summarized in the form of a consolidated assessment table, presenting the overall results of the first stage of the risk assessment based on the priority of risk factors. The criterion table was formed by compiling assessments from each expert.

An analysis of the obtained results allows for several important conclusions. Firstly, Ukrainian manufacturers of asynchronous electric motors are virtually

unconcerned about the possibility of receiving financial aid from the government to support their business. Factor F14, "Lack or reduction of state support for motor production," was identified by experts as the least risky, which, in our view, is explained by the practical absence of such support from the government over many years and manufacturers' adaptation to this situation [51].

The minimal attention experts gave to factor F16, "Corruption inconsistency of trade partners," is explained by the presence of chaos elements and a lack of civilized market signs. The same rationale can be applied to factors such as F15, "Deterioration of production and sales market mechanisms" (ranked 11th), and factor F8, "Increased fiscal pressure on manufacturers of asynchronous motors by the state" (ranked 13th). The low rating of factor F12, "Issues in the banking sector (obstacles in obtaining credits)," in our opinion, is explained by the domestic motor manufacturers overcoming hurdles caused by the global financial crisis and gaining some immunity in this area. The high rating of Ukrainian motors in the domestic market does not cause critical conditions for reduced exports of this product (factor 13) [51].

Moreover, using the constructed criterion table, 10 currently most significant market conjuncture risk factors for asynchronous electric motors were substantiated. They were ranked in the following order: factor F4, "Emergence of alternative asynchronous motors (market capacity reduction)"; factor F3, "Emergence of corruption-related deficits in electrical energy for the industrial needs of motor consumers"; factor F7, "Propaganda of low-quality domestic asynchronous motors"; factor F5, "Increase in the share of imported motors in the Ukrainian market at dumping prices"; factor F1, "Artificial deterioration of the overall national Ukrainian market conjuncture"; factor F2, "Shortcomings in corruption-related legislative support for market processes in Ukraine"; factor F11, "Increase in the cost price of domestically produced motors due to corrupt actions"; factor F10, "Shift in preferences of target consumers in favor of imported motors"; factor F9, "Customs difficulties in ensuring motor production with quality components and materials"; factor F6, "Intensification of political and shadow instability in Ukraine, increase in corruption levels." [51]

The corresponding calculations for determining the quantitative assessment of the level of compliance with the risk of deterioration of the market situation are summarized by us in Table 3.4 [51].

Table 3.4-Calculation of the quantitative assessment of the level of compliance risk of deterioration of the Ukrainian asynchronous electric motor market [51]

Code	The name of the risk factor	Φ_i^{6a2}	Φ_i^{py3}	$\Phi_i^{6a2} \Phi_i^{py3}$
F1	Artificial worsening of the situation in the nationwide Ukrainian market	0,10	3,25	0,325
F2	Disadvantages of corrupt legislative provision of market processes in Ukraine	0,09	3,87	0,348
F3	The emergence of a corrupt shortage of electric energy for the production needs of consumers of electric motors	0,12	5,43	0,652
F4	Emergence of a false alternative to asynchronous motors (reduction of market capacity)	0,13	7,12	0,926
F5	Increasing the share of imported engines on the Ukrainian market at dumping prices	0,11	4,87	0,536
F6	Increasing political and shadow instability in Ukraine, increasing level of corruption	0,07	3,81	0,267
FF7	Propaganda of low quality asynchronous motors of domestic production	0,12	7,25	0,870
FF9	Customs difficulties with ensuring the production of engines with high-quality components and materials	0,09	3,50	0,315
FF10	Impact on changing preferences of target consumers in favor of imported engines	0,08	6,37	0,510
FF11	The increase in the cost of domestically produced engines due to the presence of corrupt practices	0,09	5,93	0,534
Всього:		1,00		5,283

To evaluate the obtained results (Table 3.5), it is necessary to create a scale with criteria for interpreting quantitative assessments of the risk level of deteriorating conditions in the Ukrainian market for asynchronous electric motors. Based on the processing and refinement of scientific proposals in this field [47-50], appropriate boundary criteria have been substantiated. The utilization of these boundaries allows for an economic interpretation of the quantitative results obtained in Table 3.5. The suggestions on this matter have been summarized by us in Table 3.5.

Thus, the expert assessment method indicates that the domestic market for asynchronous electric motors exhibits a high compliance risk (4.89 points) in worsening its operational conditions.

Table 3.5. - Criterion assessments of business risk limits and their characteristics

Risk size interval limits		General characteristics of risk	Detailed description of the risk of deterioration of the market situation due to compliance factors
Beginning	End		
0	00,5	there is no risk	The market is in the stage of development. The level of competition is low. The product dominates consumer preferences
00,5	20,8	the risk is minimal	The market is practically formed. Normal level of competition. There are no particular threats of deterioration of the situation at the forum
20,8	50,5	the risk is increased	The market is in the stage of commercial success. There is a threat of intensifying competition. The product needs to be modernized or replaced with a more advanced one
50,5	70,5	the risk is critical	The market is in the initial stage of decline. Threats of competitors have increased. Urgent diversification of market and commodity policy is necessary
70,5	10,0	the risk is unacceptable	Critical state of the market. The product is not competitive. It is necessary to replace the product or change the market segment

Moreover, the greatest compliance risk is associated with a decline in the general economic situation of Ukraine due to the existence of a significant level of corruption, a reduction in the capacity of the domestic market of asynchronous electric motors due to

improper lobbying of the personal interests of certain individuals or groups, and a lack of high-quality raw materials for their production in Ukraine due to the presence of artificial barriers for its supply to enterprises producing asynchronous electric motors.

3.2. Development of interaction between consumers and international producers of goods in the energy industry

The pivotal placement of consumers in the energy transition is crucial to achieving both climate change objectives and ensuring accessible, affordable, and secure energy. This emphasis on consumer-centric strategies has become increasingly imperative, particularly as consumers globally contend with unparalleled cost pressures stemming from reliance on fossil fuels, amplified by the disruptions arising from Russia's invasion of Ukraine. Presently, the challenge is twofold: assisting consumers during existing adversities while expediting a swift transition that upholds inclusivity, sustainability, and affordability within the shortest possible timeframe. The ramifications of inaction are and will continue to be increasingly severe for both humanity and the environment. However, the prospect of leveraging available tools to simultaneously address these objectives is well within our grasp.

1. Fundamental elements and catalysts of the energy transition, including electrification, efficiency, digitalization, and decentralization, hinge entirely upon consumer involvement. Achieving large-scale electrification of end-uses necessitates significant individual consumer investment. Similarly, any global vision of a decentralized, clean energy system must encompass solutions like self-generation and energy communities to be viable.

2. Increased consumer participation in the energy transition holds substantial benefits for both consumers and the energy system. Such engagement fosters a more efficient, resilient energy system, offering enhanced value to consumers. On the other side, consumers can experience reduced energy expenses, improved home comfort and value, better health, and enhanced air quality. In certain analyzed countries, transitioning to a consumer-centric energy model could potentially yield savings ranging from 40% to

60%. This shift is attributed to the adoption of electricity for heating, cooling, and cooking, local electricity production, and fixed-price renewable energy supply as opposed to fossil fuel-based energy subject to variable prices linked to commodity market fluctuations.

3. Consumer protection and empowerment initiatives hold the potential to mitigate numerous barriers preventing consumers from taking action regarding their energy supply choices, appliance purchases, and engagement with the energy system.

4. Employing a consumer journey approach to identify impediments to a swifter and more equitable energy transition reveals numerous intervention opportunities at each stage.

Before purchase: Enhance consumer awareness and comprehension regarding the necessity and opportunities for change by:

- Enhancing information, labeling, and awareness campaigns to inform consumers effectively.

- Ensuring that information provided is transparent, relevant, and easily understandable to build and sustain consumer confidence in digital solutions by regulating privacy, reliability, and data quality.

- Enhancing the market availability of suitable, safe, and cost-effective options through:

- Implementing direct policy support by offering incentives that encourage a shift from environmentally harmful solutions to cleaner alternatives (e.g., transitioning from gas boilers to heat pumps).

- Recognizing emerging consumer practices like prosumption and devising suitable regulatory frameworks to facilitate and encourage such practices.

- Creating pricing and financing models that accommodate the cost structure of energy-efficient solutions, reflecting long-term savings (initiating upfront investments followed by ongoing cost savings). Ensuring that these features are reflected in a lower interest rate, incentivizing consumers to repay loans more effectively due to the financed solutions.

- Introducing innovative business models that enable consumers to provide flexibility as a service to the energy system.

- Implementing market and network arrangements tailored to specific contexts, such as energy communities in well-developed urban or industrial areas.

- Ensuring that product standards and industry practices keep pace with the rapidly evolving market to avoid delaying the introduction of new options to consumers.

During Purchase: Facilitate the investment process by:

- Eliminating administrative barriers that hinder uptake, such as convoluted permitting systems leading to prolonged delays.

- Ensuring accessible and convenient financing options for all consumers, especially those with limited incomes.

Post-Purchase: Ensure efficient and safe use of new products and services by:

- Providing consumers with accessible resources to learn and adapt to new or unfamiliar technologies.

- Reducing the gap between current consumer digital literacy and the necessary level required to effectively operate new systems. This can be achieved through consumer education and simplifying the user interface of complex technologies.

Post-Purchase: Address consumers' needs for maintenance, repair, and resolution by:

- Developing local supply chains to support maintenance and repair services.

- Ensuring access to robust systems for redress in case of issues or complaints.

In addition to these actions, it is crucial to integrate the perspectives and requirements of consumers, along with their protection and empowerment, into the design, regulation, and operation of the energy system. This necessitates collaboration among energy market participants, system designers, regulators, policymakers, consumer representatives, and protection organizations. A comprehensive representation of the consumer experience is vital in driving a successful energy transition.

Our recommendations include:

- Coordinating energy and consumer policy-making and regulation both nationally and internationally. This entails fostering enhanced collaboration through national policy forums that engage various stakeholders and involving consumer experts directly in energy organizations.

- Promoting market offers and business models that inherently safeguard and empower consumers. For instance, establishing centralized resources, like one-stop shops, to furnish consumers with comprehensive and trustworthy information and guidance.

- Ensuring improved measurement and monitoring of advancements related to consumers in energy transitions. This involves incorporating metrics that assess the accessibility of affordable energy solutions, the extent of savings transferred to consumers, comprehension of clean energy solutions and their advantages, as well as access to clean transportation alternatives.

Conclusions

The pivotal placement of consumers in the energy transition is crucial to achieving both climate change objectives and ensuring accessible, affordable, and secure energy. This emphasis on consumer-centric strategies has become increasingly imperative, particularly as consumers globally contend with unparalleled cost pressures stemming from reliance on fossil fuels, amplified by the disruptions arising from Russia's invasion of Ukraine. Presently, the challenge is twofold: assisting consumers during existing adversities while expediting a swift transition that upholds inclusivity, sustainability, and affordability within the shortest possible timeframe. The ramifications of inaction are and will continue to be increasingly severe for both humanity and the environment. However, the prospect of leveraging available tools to simultaneously address these objectives is well within our grasp.

At present, existing policies, regulations framing the energy market, and consumer offerings have been slow in addressing this dual challenge, primarily due to their lack of design oriented towards the energy user. Nonetheless, some countries have promptly and effectively reacted in both public and private sectors to shield consumers from upheavals. This paper serves as an initial step towards rectifying this gap. It explores the obstacles hindering consumers from transitioning towards more sustainable energy usage models and investigates how enhanced consumer protection and empowerment can surmount these barriers, expediting the energy transition.

Using the framework of the 'consumer journey,' we analyze the impediments consumers face at each stage of their interaction with energy-related technologies and services. This approach helps examine the potential impact of improved consumer protection and empowerment. The focus is on three categories of energy services: home heating and cooling, cooking, and transportation. Within these categories, we scrutinize three types of consumer actions: selecting clean energy sources, purchasing and utilizing buildings and appliances, and actively engaging with the energy system [51].

It's important to note that this is an initial exploration of these issues and not an exhaustive study. Instead, it highlights a series of actionable opportunities and exemplifies them with specific instances from diverse countries with varying socio-cultural contexts and energy challenges, such as Brazil, Chile, Italy, Pakistan, Romania, Rwanda, South Africa, Spain, and the USA.

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