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## Audit as a Tool Affecting the Management of Economic Security of Companies in the Polish Energy Sector: A Research Report

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**Abstract:**

**Purpose:** The purpose of the study is to present the results of the conducted research with the participation of managerial staff and members of supervisory boards from companies operating in the domestic energy sector. The material presents an analysis of a survey on the functioning of supervisory boards and the use of audit tools in their activities. The study also contains a brief description of the Polish energy sector.

**Approach/Methodology/Design:** In the preparation and conduct of the research activity, the following research methods and techniques adapted to the explored area were used: a diagnostic survey in the form of surveys, expert interviews and analysis of documents. The survey used an anonymously completed survey questionnaire, which consisted of a metric, the main part and contained closed questions. Respondents completed the questionnaire without contacting the interviewer (the questionnaire was distributed by name to the respondents in print and electronic versions). The expert interview was conducted in the form of a guided interview based on a previously prepared scenario. In the examination of documents, quantitative analysis (using an analysis sheet) and qualitative analysis (computer programs were used) were used; analysis of the literature on the subject (from both domestic and foreign resources), including specialized periodical literature on corporate governance, corporate management and audit; case study method (case study), including, among others, selected aspects of the functioning of the Tauron S.A. capital group; participatory observation (in the form of active participation in meetings of the supervisory board of a company belonging to the Tauron S.A. capital group); method of examining source data (statistical comparisons, documents, acts of generally applicable laws and internal regulations - statutes, regulations, instructions, ordinances, etc.).

**Findings:** When undertaking the evaluation of the obtained research results, it should be stated that they constitute the sum of all undertaken activities (analytical, empirical, comparative, etc.). Thanks to the multifaceted approach to the studied issues, it was possible to obtain data and collect knowledge and information enabling direct reference to the indicated research problems as well as to verify the adopted hypotheses. At this point, it is necessary to remind the reader again that due to the strictly defined editorial requirements for the studies published in ERSJ, this study presents only part of the obtained research

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result. However, the empirical material collected during the survey already allows for recapitulation and conclusions.

**Practical Implications:** The article can be used in creating solutions in other EU countries, in the field of creating own security policy, with particular emphasis on audit as a tool used in managing the security of the energy sector.

**Originality/Value:** The article uses the results of scientific research conducted in the largest Polish energy companies in the last few years.

**Keywords:** Energy sector, energy security, governance, Poland, research report.

**JEL classification:** L2, E2, N7, P28, Q43, M42.

**Paper Type:** Research article.

## 1. Introduction

The irregularities in the functioning of state-owned business entities, most often revealed by the independent media, are linked, among others, to non-economic management based on wrong-headed decisions of managers and implementation of bad solutions, as well as reliance on unverified information or mechanisms related to the market of services and recipients, along with improper use of available control instruments.

The article discusses the issue of functioning of supervisory boards in Polish companies operating in the energy sector with a particular reference to the matter of using the audit tool. The text presents the results of the research undertaken with participation of managerial staff and members of supervisory boards of Polish state-owned energy companies, i.e., Tauron Polska Energia S.A., ENEA S.A. and Polska Grupa Energetyczna - PGE S.A. When considered all together, these entities own 96% of the electricity production market in Poland.

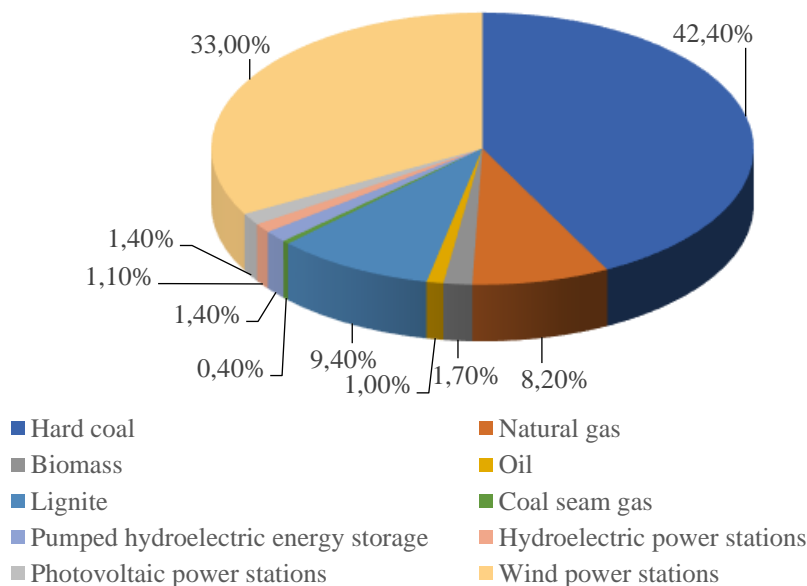
## 2. The Energy Sector in Poland

Energy security constitutes a fundamental element of strategic planning in any developing country (Labandeira and Manzano, 2012). Sustainable development which consists of generation and distribution of electrical energy should be treated as the foundation for a smooth functioning of the economic system.

The development of each country depends on access to energy, and long-term forecasts (until 2040) relating to the global economy indicate its average annual growth rate of 2.8% (Fedoskina, 2016). Considering the increase in the efficiency of electrical energy production, it is expected that the energy sector will record an acceleration of 1.1% each year.

Primary energy production in Poland is based primarily on fossil fuels. Among the minerals, coal (hard coal, lignite) is in the first place, which secures 51.8% of the country's demand for electrical energy (Figure 1).

**Figure 1.** Primary energy production in Poland (in 2019).



**Source:** Own elaboration based on data from the European Network of Transmission System Operators.

The entities that form the National Power System (hereinafter, NPS), being responsible for the continuity and stability of electrical energy supply, constitute separate organizational units and are subordinated to different institutions. Furthermore, they operate on the basis of separate legal regulations. Within the NPS, the subsystems that form it can be distinguished as follows:

- a subsystem gathering electricity generators;
- a subsystem gathering entities operating and maintaining the transmission network;
- a subsystem gathering electrical power distributors.

The generation subsystem is formed by system power plants, power plants and heat and power plants industrial, heat and power plants supplying the local market (company, local government), hydroelectric, solar, wind, biomass and biogas power plants. The electrical energy generated by these institutions and entities is distributed through the transmission network (with diverse technical parameters - 750 kV, 400 kV, 220 kV) by the national monopolist in this area, i.e., the company PSE S.A.

The final recipient of the service, the consumer of electrical energy, receives it through the distributive network of the lower transmission parameters of 110 kV (including medium- and low-voltage lines) (Table 1).

**Table 1.** Average monthly power demand in daily peaks of workday load in Poland in 2013÷2020 [MW].

Years	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
January	24229	23801	23969	24075	24261	24291	24705	25325	25000	25570
February	23010	23723	24517	23252	23234	23743	23493	24581	25297	24502
March	22200	22652	22654	23192	22615	23077	23264	23239	24606	23863
April	20469	21211	21528	21220	21574	21818	21786	22678	22390	22516
May	19954	20112	20187	20194	20566	21018	21304	21836	22212	22330
June	19607	20271	20247	20593	20632	21051	21664	21879	22634	23072
July	19725	20021	20163	20505	21217	21311	21483	21967	22678	21972
August	19587	20205	20247	20540	20758	21369	21456	22300	22825	22372
September	21178	21517	21472	21732	21902	22150	22456	22965	23192	22749
October	22359	22808	22553	22831	22883	23139	23240	23636	23660	23736
November	23066	23784	23503	23776	23905	23913	24578	24942	25263	24605
December	24464	23809	24078	24094	24275	23838	24739	24933	25345	24217

*Source:* Own elaboration based on data from the Polish Energy Regulatory Office.

The development of all branches of industry and the development of information technology generate an increasing demand for electrical energy supply. The forecasting approach of the national energy demand indicates that in 2030 Poland will need 217.4 TWh, (Table 2).

**Table 2.** Electrical energy demand forecast in Poland (in TWh).

Demand areas	2025	2030
Final energy	152,7	171,6
Energy sector	12,7	13,3
Transmission and distribution losses	15,0	16,8
Net demand	180,4	201,7
Own needs	14,2	15,7
Gross demand	194,6	217,4

*Source:* Own elaboration based on data from the Forecast of Fuel and Energy Demand to 2030 published by the Ministry of Economy in 2016.

With the initiation in 1997 of a range of asset transitions of many areas of the national economy, including the energy sector, the entity structure of the energy industry has been systematically changing. The initial consolidation of state-owned energy companies has been replaced by changes of a vertical nature. The privatization of the sector has also been conducted in a parallel manner.

As a result of the ongoing processes of consolidation and transformation of capital groups, there has been a high degree of concentration of potential. According to the data of the Energy Regulatory Office, the three largest producers (PGE, Tauron and EDF) had more than half of the installed capacity at their disposal and were responsible for  $\frac{2}{3}$  of Poland's energy production.

The largest companies in the domestic energy sector include:

- PGE Capital Group which manages more than 40 hundred power plants and thermal power plants combined heat and power plants, 8 distribution network operators, 7 companies engaged in retail sales of energy and several lignite mines;
- Tauron Polska Energia Capital Group, the largest energy distributor in Poland whose energy transmission networks cover 17% of the country's area;
- Enea Capital Group, covering the western and north-western Poland. Enea is the operator of a coal power plant in Koźienice;
- EDF Capital Group which is a French energy potentate with a global reach and which in Poland has a 10% share of the domestic electrical energy market and a 15% share in the grid heat market;
- PAK Capital Group (Zespół Elektrowni Pątnów-Adamów-Konin) which is the second largest entity in Poland producing energy from lignite. PAK is formed by four thermal power stations located in the Konin area;
- Energa Capital Group which manages the functioning of 47 hydroelectric power plants and a coal power plant in Ostrołęka. In addition to generating, trading and distribution of electrical energy and thermal energy, Energa is also active in street lighting, design, material supply, network execution and specialized transportation, as well as hotel and IT services.

Recapitulating the outline of the characteristics of the electrical energy sector in Poland presented above, it should be pointed out that this part of the national economy will need an enormous amount of investment outlay in the near future. This is mainly due to the natural ageing process of the existing infrastructure of the sector, including power plants and transmission installations.

In Poland, 40% of the energy blocks have already been in operation for more than 40 years and 15% of them are more than half a century old, which qualifies them to be immediately decommissioned.

It should also be noted that the process of modernization of the domestic energy sector is also initiated by EU requirements, in particular those relating to measures aimed at reducing dust, nitrogen oxides and carbon dioxide emissions.

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### **3. The Role of Corporate Governance as the Initiator of Control Activities**

Corporate governance, perceived as a form of real authority and control spread over the institution, constitutes a peculiar system of constraints which in its essence generates added value for its smooth functioning and further sustainable development. It is necessary to point out the frequent occurrence (in this form) of actions of a controlling nature, and decision-making mechanisms in circumstances that are not provided for by any form of agreement or contract.

Analysing information from recent years on the financial condition of companies and state-owned enterprises cooperating with the domestic energy sector, including primarily the mining industry, it can be presumed that corporate governance is inefficiently used which could be affected, among others, by the archaic perception of this tool as a form of authority and rigid supervision of the institution by its owners and other stakeholders.

In the private sector we are observing a somewhat different current of thought, as entities that are statutorily obliged to own external instruments of control are searching for new solutions that will allow them to use corporate governance more effectively.

The essence of corporate governance is to ensure that the institution (e.g., capital group, corporation, holding company, etc.), functions more efficiently, so that the protection of interests of investors as well as other stakeholders will be guaranteed at a sufficiently high level. Among the operational objectives of the aforementioned instrument of control, it is necessary to indicate, among others, the identification and elimination of actions taken by dominant shareholders (managers) which in their essence lead to abuses and weakening the condition of the company.

In practice, corporate governance is based on both formal and informal standards in force in the business environment. Of course, the primacy here is led by formalized solutions, contained in legal acts in force in the legal order of an international organization (such as the European Union) as well as in the legislature of a given country. The most common solutions are developed by regulatory institutions gathered in central administration structures; however, they may also come from the occupational environment as well as be developed within the internal regulations of the capital group. The corporate governance system is particularly useful for entities functioning in the form of capital groups and holdings.

Members and leaders of the capital group should focus their activities on initiatives that take into account the interests of creditors and shareholders with minority stakes while complying with the applicable principles and doctrine of conducting corporate governance. According to the principles of corporate governance, all decision-making - both operational and strategic - should be characterized by a deep concern for the sustainable development of the capital group, and the concept of intra-

corporate cooperation should be based on balancing the interests of shareholders and stakeholders of the group.

The most important issue relating to the effective use of corporate governance seems to be proceeding according to the principle of separation of ownership and management functions.

At this point, it should be stressed out that in all institutionalized entities (e.g., companies, concerns, corporations, state and local government administration institutions, etc.) various types of audits are used which for more rational use of the existing potential of a given organization. Thereupon, selected types of internal, external and industry audits were also the subject of the study.

The audit is an instrument that in an active, independent, professional and objective manner evaluates the effectiveness of the internal control system and risk management processes in entities of the capital group. It should ensure effective conduct of all operations, including the activities of the organization, bring added value by revealing the potential for improvement, weaknesses and deficiencies, as well as indicate how to achieve higher quality products and efficiency of entrusted resources.

#### **4. Methodological Assumptions of the Undertaken Research Activity**

The cognitive goal of the research activity undertaken, of which the results (in outline) are presented in this study, was to design a model of corporate governance using the audit tool and to verify it in Polish energy companies. The result of this research purpose was associated, on the one hand, with obtaining an assessment of the corporate governance solutions used so far in state-owned companies, and on the other hand, it was intended to enable the modification of this tool for its more effective application in the doctrine of the functioning of the above-mentioned institutions.

The authors of the study claim that the achievement of this purpose will also have a practical value since the point was to indicate the best utilitarian solutions for improving efficiency in the management of entities forming one of the pillars of the Polish economy.

The general objective thus expressed was clarified by the definition of specific objectives, including:

- identification of factors affecting the effectiveness of the work of supervisory board members in domestic energy companies;
- determining the professional profile of a member of the supervisory board most desirable from the point of view of the needs and requirements of an institution operating in the domestic energy sector;

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- indication of the audit matrix and their audit fields as an integrated way of using the existing potential in the implementation of information and decision-making processes in various spheres of the organization's activity in the energy sector;
  - determining the most desirable form of audit in the process of supporting corporate governance in domestic energy companies;
  - identification of factors affecting the effectiveness of corporate governance in domestic energy companies.

The impulse for selecting the undertaken research topic were cognitive and practical considerations, so the nature of the professional work performed by the authors and previous experience. Therefore, the purpose of the research activity was formulated in such a way that the result of the designed study was a useful component of the tool to develop feasible and effective action recommendations for supervisory boards within the framework of corporate governance.

#### **4.1 Research Problems and Hypotheses**

Conducting scientific research aims to solve certain problems in the sphere of cognition, theoretical or resulting from practice. Apanowicz (2015) points out that "the research problem formulated in the scientific work with its substantive and logical content must, primarily, provide the possibility of determining the subject of research and the emergence of a sequence of theses (problem questions, specific questions) in the chosen (assumed) task (problem) to be developed (explained, solved)" (Apanowicz, 2015).

The main research problem addressed in this study, understood as a question determining the quality and extent of a certain ignorance (a certain lack of previous knowledge) and the purpose and limit of the research, work can be formulated in the statement that: within the corporate governance framework of companies in the domestic energy sector, the available control tools in the form of an audit are not fully used.

The problem formulated in this way has been clarified by the following specific problems.

- Specific problem 1:
  - what factors affect the effectiveness of supervisory boards in domestic companies in the energy sector?
- Specific problem 2:
  - what professional competencies should a member of the supervisory board of an energy sector institution in Poland have?
- Specific problem 3:



- which forms of the audit are currently most frequently used in the control process, and supervision of the functioning of domestic companies in the energy sector?  
Specific problem 4:
- which forms of audit are the most desirable in the opinion of supervisory board members in the process of supporting corporate governance in domestic energy companies?

In response to such problems, the following research hypotheses can be put forward. The main hypothesis is formed by the statement that "[...] corporate governance is an essential instrument of management control in companies of the domestic energy sector and its effectiveness depends on proper cooperation between supervisory board members and the management of these entities and the creative application of the audit tool".

*Specific hypothesis 1:*

- The effectiveness of the work of supervisory boards in domestic companies in the energy sector is most influenced by cooperation with management, based primarily on the flow of reliable information about the company.

*Specific hypothesis 2:*

- Knowledge of the sector and experience in the management of its entities are crucial professional competencies which should be characterized by members of supervisory boards in domestic energy companies.

*Specific hypothesis 3:*

- In the process of supervision conducted by supervisory boards of companies in the energy sector, the most frequently used form of control is a financial audit.

*Specific hypothesis 4:*

- A financial audit is not the only effective form of control within the framework of corporate governance over companies in the domestic energy sector.

## **4.2 Research Methods and Techniques**

In the preparation and conduct of the research activity, the following research methods and techniques adapted to the explored area were used:

- a diagnostic survey in the form of surveys, expert interviews and analysis of documents. The survey used an anonymously completed survey questionnaire, which consisted of a metric, the main part and contained closed questions. Respondents completed the questionnaire without contacting the interviewer (the questionnaire was distributed by name to the respondents in print and electronic versions). The expert interview was conducted in the form of a guided interview based on a previously prepared

scenario. In the examination of documents, quantitative analysis (using an analysis sheet) and qualitative analysis (computer programs were used) were used;

- analysis of the literature on the subject (from both domestic and foreign resources), including specialized periodical literature on corporate governance, corporate management and audit;
- case study method (case study), including, among others, selected aspects of the functioning of the Tauron S. A. capital group;
- participatory observation (in the form of active participation in meetings of the supervisory board of a company belonging to the Tauron S. A. capital group);
- method of examining source data (statistical comparisons, documents, acts of generally applicable laws and internal regulations - statutes, regulations, instructions, ordinances, etc.).

The applied tools and methods of developing the results did not require testing, because they had been successfully used for many years, among others, in the exploration of areas related to social sciences (field: management sciences, safety sciences).

The respondents were provided with a brochure containing basic information about the survey, its main assumptions, general and specific objectives, contractors, recipients of the research result and other exemplifying factors correlated with the project. Due to the accepted volumetric framework of this study, the material presents only the results of the research activity from the survey conducted as part of the diagnostic poll. Full results of the research will be presented in a more extensive monographic study.

### **4.3 Scope of the Research and Formal Limitations**

The undertaken research activity consisted of several stages. The first stage was the analysis of the available (domestic and foreign) literature correlated around the contemporary used instruments in the field of management, with particular emphasis on the energy sector. The authors of this study focused their attention especially on the positions dealing with corporate governance and ownership supervision.

It should be pointed out that as far as the issues of management of state administration institutions or enterprises functioning in other sectors of the domestic economy have been reflected in many compact works, the issues of management of companies in the energy sector have not been devoted to enough studies.

Another analytical activity undertaken as part of the research was to study the legal acts in force in Poland regulating the functioning of the energy sector. In order to reliably present the obtained research result, it is necessary to know the leading legal dispositions which in their content refer to the studied issues.

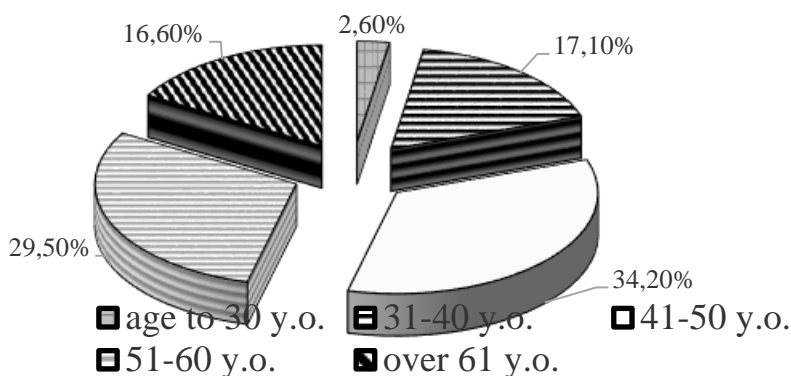
As part of the third stage of research, detailed characteristics of the research environment was performed, i.e., the domestic energy sector presenting this issue, among others, by the perspective of government programs for the energy sector, the assumptions of the domestic energy policy and the directions of development as well as the principles of implementation of energy policy in Poland. The final stage of the diagnostic poll was to conduct a survey and expert interviews. The obtained result of the research activity was confronted with the theoretical assumptions and the verification of the adopted research hypotheses enabled the development of essential recommendations for improving the activities of the corporate governance in companies of the domestic energy sector.

The scope of the study covered activities of supervisory boards in domestic companies in the energy sector, with a particular reference to the effectiveness of the activities undertaken in the form of corporate governance and the use of control instruments in the form of audit. The subject scope of the research activity included three domestic capital groups (Tauron Polska Energia S. A., ENEA S. A. and Polska Grupa Energetyczna - PGE S. A.), which together own 96% of the electrical energy production market in Poland.

#### 4.4 Survey Group

The survey addressed to board members concerned a total of 61 participants (52 men i.e., 85.2% of respondents and 9 women - 14.8%). The return of distributed surveys was at the level of 78%, and thereupon enabled a meaningful analysis of the collected data. All returned surveys had been completed properly. In the metric, the respondents had the opportunity to select one of five age categories. The most numerous category that respondents marked as corresponding to their age was the range of 41-50 years (34.2% of respondents). Figure 2 presented below shows the distribution of marked answers to the age question.

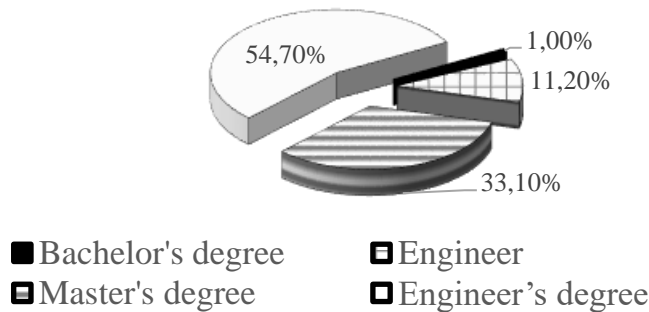
**Figure 2.** Age of respondents participating in the survey (in %).



*Source: Own elaboration.*

All persons participating in the survey had higher education, whereby the largest group was formed by graduates of technical faculties (first and second-degree studies - 65.9%) (Figure 3).

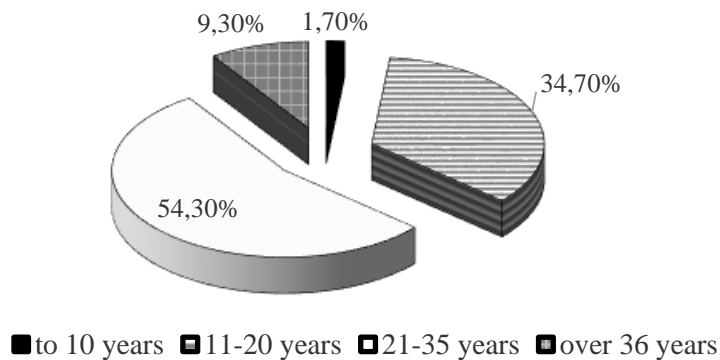
**Figure 3.** Education of respondents participating in the survey (in %).



*Source: Own elaboration.*

When analysing the answers concerning the general job seniority of the respondents, it should be pointed out that the vast majority of them had significant professional experience - as many as 54.3% marked the time slot of 21-35 years (Figure 4).

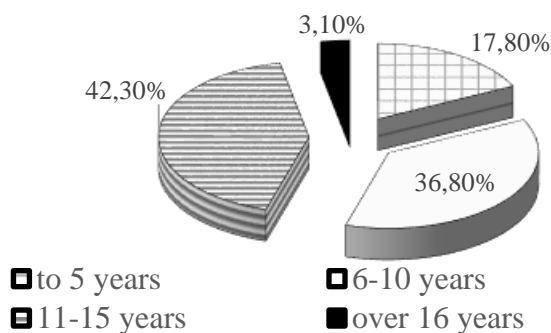
**Figure 4.** Job seniority of respondents participating in the survey (in %).



*Source: Own elaboration.*

The last of the questions included in the first part of the survey questionnaire concerned the respondents' experience (defined by years) as a member of the supervisory board. The answers provided show that the respondents are people with significant experience in holding this position, as more than 42% have worked at this position for a minimum of 11 years. Detailed responses of respondents are included in Figure 5 below.

**Graph 5.** Respondents' job seniority as supervisory board members (in %).



*Source: Own elaboration.*

#### **4.5 Analysis of the Results of the Research Action Resulting from the Survey Conducted**

The main part of the survey addressed to respondents serving as members (including the chairman) of the supervisory boards of companies in the domestic energy sector included 14 questions (113 options for possible answers), referring in its essence to three issues, i.e.:

- to the functioning and evaluation of the effectiveness of corporate governance;
- to determining the most effective form of auditing used by supervisory boards;
- to the professional competence of supervisory board members.

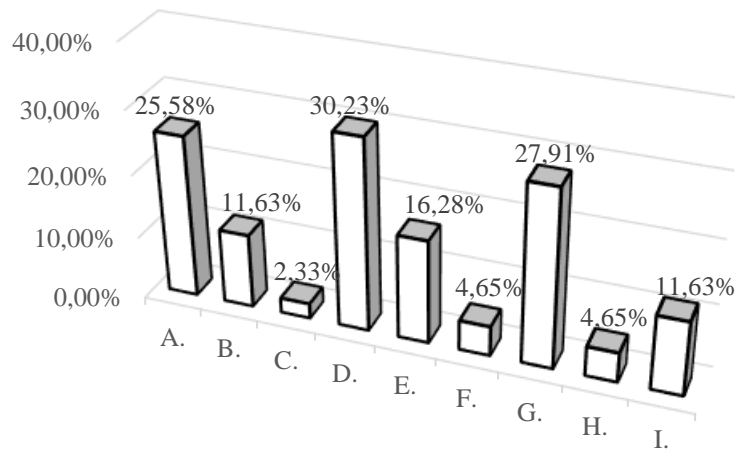
The first question of the main part of the survey asked respondents to indicate the factors that they believe most limit the effectiveness of supervisory board members. When answering, the respondent could mark more than one answer from among nine possible choices.

As the factors that most limit the effectiveness of the work of supervisory boards in domestic companies in the energy sector, respondents indicated, lack of reliable information from the management and lack of cooperation with the management, as well as lack of time to discuss issues of importance to the company. The detailed distribution of answers given is shown in Figure 6 below.

As the above data indicate, among the most important aspects of the functioning of supervisory boards in companies in the energy sector, respondents included the uninterrupted and well-intentioned flow of information between the management and the supervisory board, which should be interpreted as the body responsible for

the ongoing supervision of the operation of the legal entity (enterprise, company, corporation, capital group, etc.).

**Figure 6.** Comparison of answers (in %) provided by survey respondents to the question: which factors most limit the effectiveness of board members? (You could select more than one option).



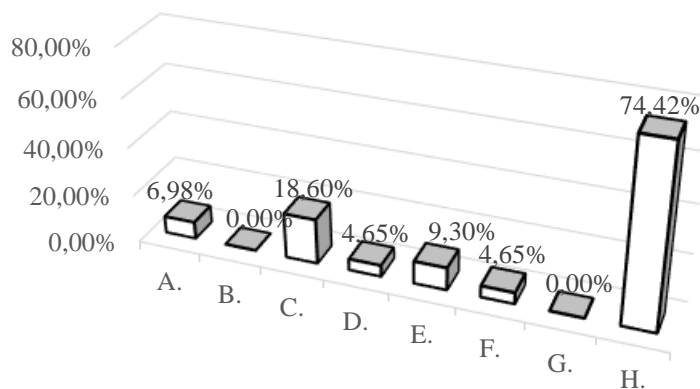
- A. Lack of time to talk about important things.
- B. Bureaucratic responsibilities.
- C. Regulative requirements.
- D. Lack of reliable information from management.
- E. Ineffective board meetings.
- F. Domination of the board chairman.
- G. Lack of cooperation with the board.
- H. Dominance of the chairman of the management.
- I. Other.

**Source:** Own elaboration.

Importantly, the answers provided to the first question show that both individuals holding the position of CEO and chairman of the supervisory board do not perceive themselves as the hegemon of the dialogue and the only decision-maker in the management process of the institution. In light of the answers provided, it is also important to reflect on so far functioning model and the course of supervisory board meetings in companies in the energy sector, since a significant number of respondents signalled low effectiveness of cyclical meetings between management and board members (Figure 7).

In the second question, respondents were asked to highlight the committees (substantive working groups) that function on the supervisory board represented by respondents. The respondents had the opportunity to indicate (it was possible to select more than one answer) appropriate, substantive bodies out of nine options.

**Figure 7.** Comparison of responses (%) provided by survey respondents to the question: which committees function as part of your supervisory board? (one could select more than one option).



- A. Audit committee.
- B. A compensation committee.
- C. Strategy committee.
- D. Risk committee.
- E. Nominations committee.
- F. Restructuring committee.
- G. Other, what kind of committee?
- H. There are no committees in operation.

**Source:** Own elaboration.

In light of the above data, it should be concluded that in almost  $\frac{3}{4}$  of the supervisory boards represented by the respondents, there are no committees (substantive working groups). Thus, nearly 75% of supervisory board members in practice do not participate in any constructive work which, in its essence, determines the current doctrine of the of the company's functioning or set directions for its development in the future.

The second answer out of the available options, which was selected by the respondents, is their participation in the work of the strategy committee (18.60%). This distribution of answers provided slightly disturbs the current optics of perceiving the leading role of supervisory boards in the management process of the institution, since their primary tasks include advising and supporting the company's management board regarding strategic plans and initiatives, and these issues are the core of the functioning of any strategy committee.

Referring to the third most frequently selected option, i.e. the nomination committee, it should be pointed out that 9.30% of respondents indicated functioning within this expert organ. The task of members of the nomination committee is, among others, to evaluate and, in several cases, to substantively verify the candidates for crucial positions in the company.

Therefore, it is surprising that the respondents indicated such a marginal percentage of supervisory board members in nomination committees and this low rate can be pejoratively interpreted as marginalizing their role in the company's management process. That statement seems to be confirmed by another explication contained in the above question.

None of the respondents (members of supervisory boards) participated in the work of the compensation committee whose members are engaged in, among others, verifying any compensation awarded to members of the Management Board and the terms of the Company's contracts with them, in order to provide recommendations to the Board regarding the conclusion of these contracts, formulating proposals on the compensation due to members of the Management Board, or conducting research and general advice to the Board regarding the compensation and benefits granted and due to members of the Management Board. This is yet another argument confirming the above-mentioned statement about the exclusion of supervisory boards in the process of administering the concern.

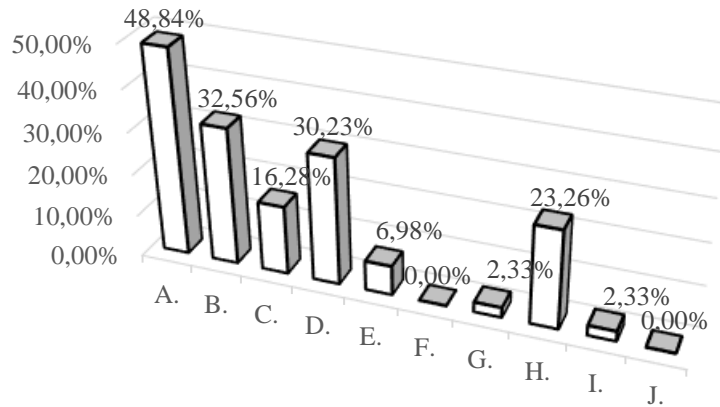
The third question addressed to the respondents concerned the most important challenges that supervisory board members would face in the coming year. Apart from a certain descriptivity relating to the issue in question and the subjectively characterized answers to this question, it should be pointed out that the most important issue for respondents is a concern for the company's bottom line, correlated around business strategy and improving business results (Figure 8).

Yet another (third) area of challenges for the respondents is the issue related to the economic environment and its impact on the condition of the company functioning in the realities of the free market economy. Therefore, proposing new solutions aimed at, among others, cost savings, creating standard and unconventional distribution networks, improving the quality of customer service or promoting the services offered, are the most important issues on which the respondents will focus their efforts in the near future.

In question 4, the respondents were asked to indicate the remuneration (range of annual revenues) they receive in connection with the function of a member of supervisory boards in energy sector companies. The respondents most often indicated the range of annual revenues at the level below PLN 30,000 (44.19%). The second order (30.23%) of the amount of remuneration indicated in the answers was the range of PLN 30,000 – 40,000 (Figure 9).



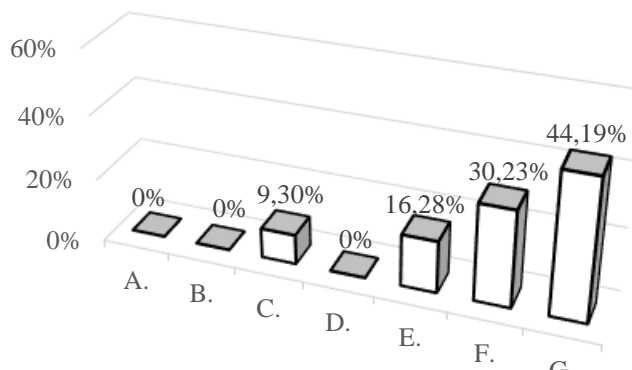
**Figure 8.** Summary of responses (in %) to the question: What are the most important challenges for supervisory board members for the coming year? (more than one option could be selected).



- A. Business strategy.
- B. Improving business performance.
- C. Risk management
- D. Economic environment.
- E. Regulatory requirements.
- F. Succession planning
- G. Remuneration of key employees.
- H. Relationship with the board.
- I. Time requirements.
- J. Others.

**Source:** Own elaboration.

**Figure 9.** Summary of responses (in %) provided by the survey respondents: Please indicate the annual level of remuneration of a member of the supervisory board of your company.



- A. Above PLN 150,000.
- B. PLN 120,000 – PLN 150,000.
- C. PLN 100,000 – PLN 120,000.

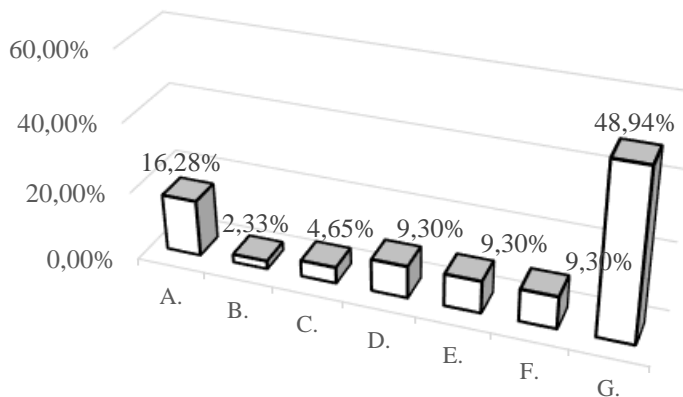
- D. PLN 70,000 – PLN 100,000.
- E. PLN 50,000 – PLN 70,000.
- F. PLN 30,000 – PLN 40,000.
- G. Less than PLN 30,000.

**Source:** Own elaboration.

As indicated above, the level of remuneration received by respondents – members of supervisory boards of energy sector companies - does not differ from the rates offered in state-owned enterprises located in other sectors of the national economy. Based on the above information, one may be tempted to put forward the thesis that belonging to the group of experts of supervisory boards is treated by their members as a significant prestigious distinction, a chance to deepen their previous knowledge of management, functioning among the best managers dealing with a particular industry, further to an additional source of income.

The next question (No. 5) was also set around the issue of remuneration obtained in the supervisory board. This time, however, the respondents were asked to indicate what percentage of remuneration of the management board representative is the remuneration of a member of the supervisory board in this company (Figure 10).

**Figure 10.** Summary of responses (in %) provided by the respondents to the survey: Please indicate what percentage of remuneration of a member of the Management Board is the remuneration of a member of the Supervisory Board in your company.



- A. more than 20 %.
- B. 18 % - 20 %.
- C. 16 % - 18 %.
- D. 14 % – 16 %.
- E. 12 % - 14 %.
- F. 10% - 12 %.
- G. below 10%

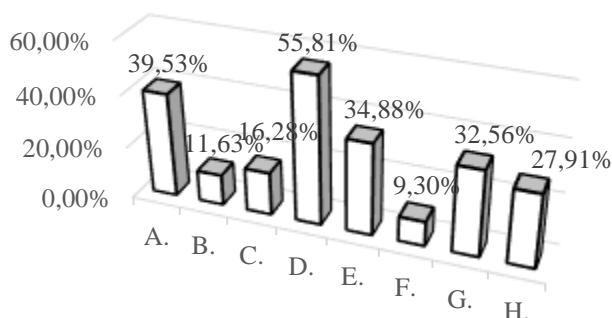
**Source:** Own elaboration.

According to the answers submitted in question 5, almost half of the respondents indicated that their remuneration is less than 10% of the income of the president or another person from the management board of the company in which the respondents act as a member of the supervisory board. On the other hand, more than 16% of respondents can boast of revenues amounting to more than 20% of earnings obtained by representatives of the executive body of capital companies.

Based on the above-mentioned statements, one may be tempted to reflect that significant spreads in remuneration of members of supervisory boards and representatives of the company's management board negatively affect the creation of a partner atmosphere in their mutual, professional relations.

In the sixth question, the respondents were asked to characterize the communication process occurring on the Management Board – Supervisory Board line (Figure 11).

**Figure 11.** Summary of responses (in %) provided by the survey respondents: Characterize the communication on the Management Board – Supervisory Board line (more than one option could be selected).



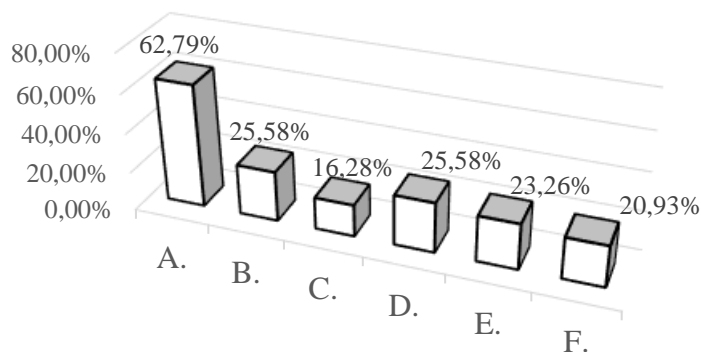
- A. Good and transparent communication.
- B. Lack of transparent cooperation.
- C. The Board of Directors shall communicate the criteria of the shareholders to the Board of Directors.
- D. The Council shall clearly identify information needs.
- E. The Management Board shall provide accurate information.
- F. There is a periodic blocking of information for the Council.
- G. The Council shall provide feedback on the proposal of the Management Board.
- H. Cooperation between the Council and the Management Board generates added value.

**Source:** Own elaboration.

After analysing the answers to question 6, a picture of communication emerges, which satisfies both the members of the management board and the supervisory board. More than half of the respondents (55.81%) indicated that the members of supervisory boards clearly define their needs for information that they expect from the management of companies, and almost 40% of respondents say that there is good and transparent communication in relations with the management board. Undoubtedly, such a state of affairs is influenced by a high level of substantive and professional preparation, which is available to both cooperating parties.

Question No. 7 concerned the most important expectations that are placed on the supervisory boards of energy sector companies in Poland. The answer indicating the respective competences of their members came to the fore. Over 62% of respondents indicated such a response (Figure 12).

**Figure 12.** Summary of responses (in %) provided by survey respondents: Identify the most important expectations of the supervisory board (more than one option could be selected).



- A. Relevant competencies.
- B. Knowledge of the company's regulatory environment.
- C. Appointment of a Management Board that is a Team and meets the needs of the company.
- D. Motivating the management team.
- E. Not to exceed the powers of the council.
- F. Decision-making of the council.

**Source:** Own elaboration.

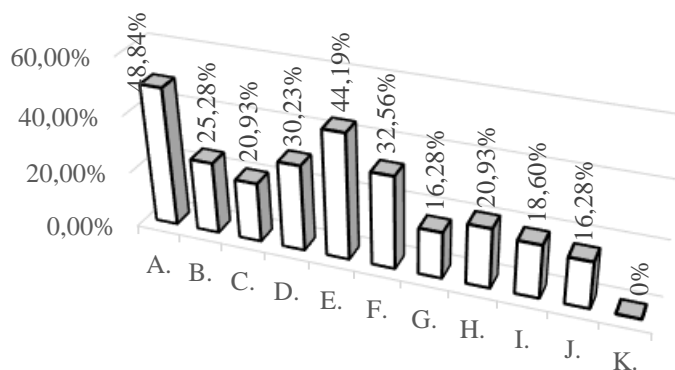
Much fewer votes were cast for the next two options, i.e. knowledge of the company's regulatory environment and motivating the management team (25.58% each). In this case, it should be pointed out that the issue of knowledge of formal, legal and organizational as well as economic realities in which entities of the energy sector operate is currently an immanent criterion for the selection of candidates for supervisory boards.

In the contemporary, competitive and basically global market of electricity suppliers, there is no place for making wrong, ill-considered decisions without a long-term strategy, because such action will be burdened with a high risk of regression of a given company. Specialists with extensive professional experience in a particular sector, whose role is to anticipate potential business risks and to take appropriate action in advance to respond to threats, are among the guarantors of preventing such situations.

Also, only one in four respondents pointed out that the task of members of supervisory boards is to stimulate or activate members of the company's management board. The fact of performing a managerial function in a company with a well-established position in the market (often the leader of a given industry) is in itself a key inspiration to make intensive efforts for a given entity. Only every fifth respondent (20.93%) indicated a preference regarding the decision-making of the council. Undoubtedly, this is due to the fact of well-established awareness of the respondents about the advisory (and not managerial) role of such a body as the supervisory board.

In question 8, the respondents were asked to indicate the competences and individual personality traits that make up the desired profile of a member of the supervisory board. The respondents had the opportunity to select more than one of the eleven response options. Professional experience in the field of management in the energy sector is the competence that the respondents most value (48.84% of respondents indicated this answer) among candidates for supervisory boards in companies of the national energy sector. Figure 13 below summarizes all the answers given to this question.

**Figure 13.** Summary of responses (in %) provided by survey respondents: Specify the profile of the desired member of the supervisory board (more than one option could be selected).



- A. Professional experience in the field of management in the sector.
- B. Knowledge of various business models and calculation structures.

- C. *Ability to express autonomous opinions.*
- D. *Resistance to pressure exerted by other board members in the process of making decisions important for the company.*
- E. *Knowledge of the sector in which the company operates.*
- F. *Ability to assess the quality of the information package received from the management board – whether it is sufficient to make a given decision.*
- G. *Qualifications and experience to monitor the risk management process in the company.*
- H. *Knowing that a board member is working for the company.*
- I. *Willingness to get involved in the work of the council.*
- J. *Having adequate time to effectively perform the function of a member of the board.*
- K. *Professional fulfilment, as well as willingness to further develop.*

**Source:** *Own elaboration.*

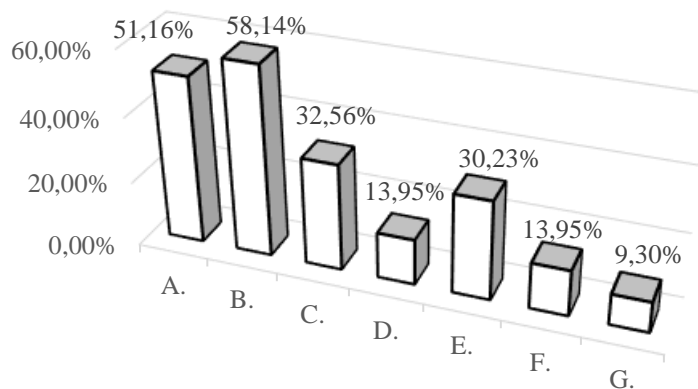
The second most frequently indicated answer was knowledge of the sector in which the company operates (44.19%). This correlation with the leading answer is not surprising, because it is the market (sector, industry) and its realities that set the directions for the functioning of the entities that form it.

Therefore, knowledge of the market and the processes taking place on it as well as the conditions under which they take place, is – according to the respondents - the most valuable component of the qualification of people applying for the function of a member of supervisory boards. The content of the member of the supervisory board is also referred to by the next option selected in order, concerning the ability to assess the quality of the information package received from the management board – whether it is sufficient to make a given decision (32.56%).

The ability to constructively and promptly assess information provided by the management board and analyse all signals coming from the company's environment is one of the most important components constituting the desired profile of a member of the supervisory board for more than 1 respondent. Undoubtedly, the ability not to succumb to influence is also an extremely important feature of managers advising on supervisory boards. This point of view was represented by three out of ten respondents (30.23%).

Question No. 9 concerned identification of the most important determinants determining the effectiveness of activities of supervisory boards. Respondents had the opportunity to select more than one of the seven possible response options. By far the largest number of votes was cast for the variant which, in its essence, indicates the diversity of the competence potential of the members of the council. According to the respondents, thanks to this universality of board members, it has a real possibility to supervise the company and monitor its results. In this question, the respondents also exposed a very important ability of members of supervisory boards, namely the ability to ask the right questions (Figure 14).

**Figure 14.** Summary of responses (in %) provided by survey respondents: Identify the most important expectations of the supervisory board (more than one option could be selected).



- A. *Knowledge of the company's business model by its members and understanding of the processes taking place in the company.*
- B. *The presence of diverse competences appropriate to the needs of the company in the board, allowing it to supervise the company and monitor its results (very important skill: asking the right questions).*
- C. *No conflicts of interest – which determines the level of objectivity of the board.*
- D. *Careful advice in ensuring that the board receives reliable and sufficient information from the board to carry out the tasks assigned to it.*
- E. *Ability to challenge the management – goals.*
- F. *Not to exceed their competences by the council.*
- G. *Adequate to the work contribution of the board members.*

**Source:** Own elaboration.

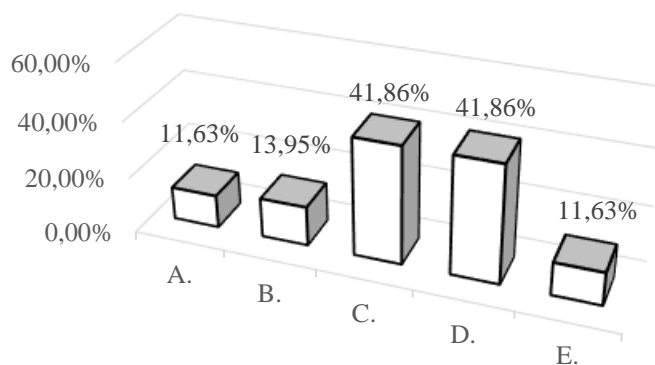
More than half of the respondents (51.16%) represent the view that knowledge of the company's business model and the processes occurring in it is an immanent element of effective activities of the supervisory board. This response, expressed explicitly by the respondents, seems to be obvious, because today it is difficult to imagine the effective functioning of a commercial institution, producing and selling the products of its own business, whose managers do not understand the rules of the modern market.

On the other hand, every third respondent (32.56%) indicates the need to provide guarantees from members of the council that there is no widely understood conflict of interest in their case, thanks to which they will make their decisions in an objective and unencumbered manner. Also, more than one third of respondents (30.23%) believe that the ability to face organizational and business challenges standing before members of the management board is a very desirable feature which

should be characterized by the supervisory board of companies in the domestic energy sector.

In question 10, members of the supervisory boards were asked (they had the opportunity to select more than one answer) about the use of audit tool in their work. Two explicates received the same, largest sum of percent responses (41.86%) which indicated that it is a tool for improving business and creating added value and serves to better manage the company (Figure 15).

**Figure 15.** Summary of responses (in %) provided by survey respondents: Why does corporate supervision use the audit tool? (more than one option could be selected).



- A. *Conducting an audit is a fulfilment of legal requirements.*
- B. *It is a tool to check the quality of services.*
- C. *It is a tool for improving activity and creating added value.*
- D. *It is an effective tool for better management of the company.*
- E. *Does not use the audit tool.*

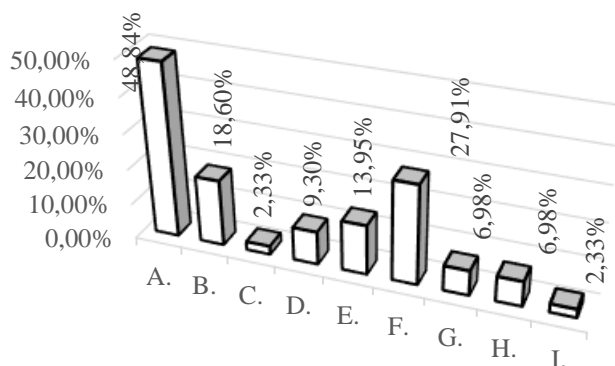
**Source:** Own elaboration.

As can be seen, audit and its different types are an immanent control instrument that is successfully applied by domestic supervisory boards in the management of national companies and firms. On the other hand, every tenth respondent (11.63%) believes that the law in force in our country obliges decision-makers to use auditing in the management process. One in ten respondents (11.63%) also took an extreme position on the issue of audit, responding that in the company in which it is part of the supervisory board, audit is not used.

The essence of question 11 was to indicate the type of audit that has been most often used so far in the process of managing the company represented by the respondents. In this classification, the financial audit came to the forefront, as almost half of the respondents (48.84%) indicated such a response (Figure 16).



**Figure 16.** Summary of responses (in %) provided by the survey respondents: What type of audit was most often applied in your company? (more than one option could be selected).



- A. Financial auditing
- B. Legal audit.
- C. Loyalty audit.
- D. Strategic audit.
- E. IT audit
- F. Efficiency audit.
- G. Communication audit.
- H. Personnel audit.
- I. Logistics audit.

**Source:** Own elaboration.

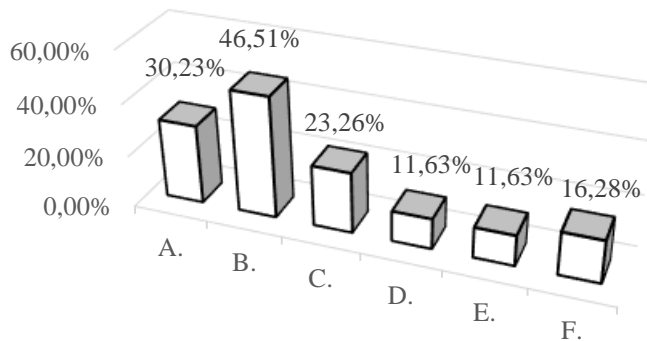
Apart from the fact that the result of the obtained answers to the above question fully confirms the adopted detailed hypothesis No. 3, the financial audit consisting, among others, in a study based on national and international standards of financial auditing, is currently of particular importance in an economic environment in which increasing emphasis is placed on responsibility and corporate governance.

On the other hand,  $\frac{1}{4}$  of respondents (27.91%) indicated that their company uses an effective audit consisting in checking the effectiveness of the unit from the point of view of the most important criteria, which in the light of the undertaken considerations and, among others, the detailed hypothesis No. 4, confirms the research assumptions adopted at the outset. The essence of this form of control is the superimposition that each organization should act in a deliberate and economical manner, while maintaining the principle of obtaining the best results from given expenditures.

The issue of compliance with the applicable legal status of the organizational solutions adopted in the company as well as other normative regulations is the essence of the legal audit, which was ranked third (18.60%) among the control instruments used by supervisory boards in domestic energy companies.

In the next questionnaire question – No. 12, the respondents were asked about the manner of using the audit tool by the supervisory board. Board members primarily use materials obtained as part of audits commissioned by company boards (46.51%). On the other hand, every third council, in which respondents' function (30.23%), shows its own initiative to commission control audits (Figure 17).

**Figure 17.** Summary of responses (in %) provided by the survey respondents: Please indicate how the supervisory board uses the audit tool? (more than one option could be selected).



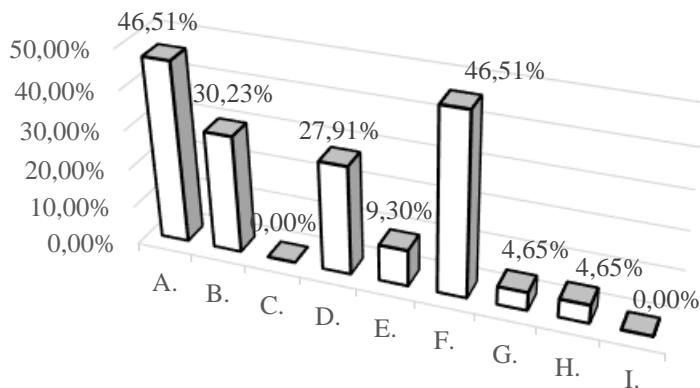
- A. Orders an audit to be carried out.
- B. He/she is acquainted with the audit commissioned by the Management Board.
- C. Uses information provided by the Internal Audit Capability.
- D. Does not use the audit tool.
- E. Supervises the use of this tool by the Management Board.
- F. This tool is used in a limited form.

**Source:** Own elaboration.

Every fifth respondent (23.26%) uses information and studies on the state of the company provided by internal organizational units dealing with audits in a given company. At this point, it should be noted that internal control is essential in achieving the objectives of every enterprise, company, and corporation. It helps these entities to adapt quickly to the changing economic environment, counteracts waste and thus minimizes operating costs. Modern internal control not only protects the company's assets and its use, but also contributes to its multiplication and achieving optimal financial results.

Question 13 concerned the type of audit that best supports corporate governance. The respondents had the opportunity to indicate their types from among nine options (it was possible to select more than one variant of the answer). This question was, in essence, a direct correlation with the above-mentioned specific hypotheses (No. 3 and 4) and the issue included in Indication No. 11 (Figure 18).

**Figure 18.** Summary of responses (in %) provided by the respondents to the survey: Please indicate which of the types of audits may be the tools best supporting corporate governance? (more than one option could be selected).



- A. Financial auditing
- B. Legal audit.
- C. Loyalty audit.
- D. Strategic audit.
- E. IT audit
- F. Efficiency audit.
- G. Communication audit.
- H. Personnel audit.
- I. Logistics audit.

**Source:** Own elaboration.

As indicated by the data from the above chart, both financial and efficiency audits find the highest (46.51% each) recognition among the members of supervisory boards participating in the study. In light of these results, the assumptions previously adopted in the methodological part of the work, relating to maximizing financial results and the development of companies, are reaffirmed.

It should be remembered that the introduction of internal audit to the public finance sector units in our country resulted from adapting Polish law to the requirements of the European Union. Initially, the internal audit initiatives focused only on the verification of the institution's financial management activities. At the same time, other important areas of the organization's operation were omitted, the functioning of which also had a very important impact on the achieved results.

The amendment to the Act on public finances<sup>3</sup> resulted in the transformation of previously used control solutions in favour of a new approach to auditing in our country. In the new concept of audit activities, the focus was not so far on the verification of compliance of management procedures and methods, but on the

<sup>3</sup>The Act of 27 August 2009 on Public Finance (unified text U. of 2009, No 157, item 1240).

cause-and-effect analysis, which was identified as key in the assessment of the results achieved by the entity. In this context, the compliance audit reoriented towards the performance audit.

Every third respondent (30.23%) indicated that the legal audit should be an immanent element of control activities undertaken in entities of the domestic energy sector. It should be noted that the legal audit covers both the states and legal relationships occurring in the area of business activity of a given company as well as in its corporate sphere. The legal analysis of actions taken by authorized decision-makers, including their compliance with the legislation in force in the European Community, is not only a *sine qua non* condition for state institutions, but also an expression of modern times.

The third place in this category was occupied by a strategic audit, which was indicated by more than ¼ of respondents (27.91%). The perception by the surveyed experts of this tool as a very important form of supporting corporate supervision is another sign of the upcoming changes in the current doctrine of control and inspection activities in national state-owned enterprises. Asking yourself questions such as:

- at what point should the company stop in order to obtain a reliable assessment of its position?
- how can the place occupied by the company on the services market or in the economic environment in which it operates be reliably verified?
- what actions should be taken to improve the company's place in the business environment to which it belongs, aspires?.

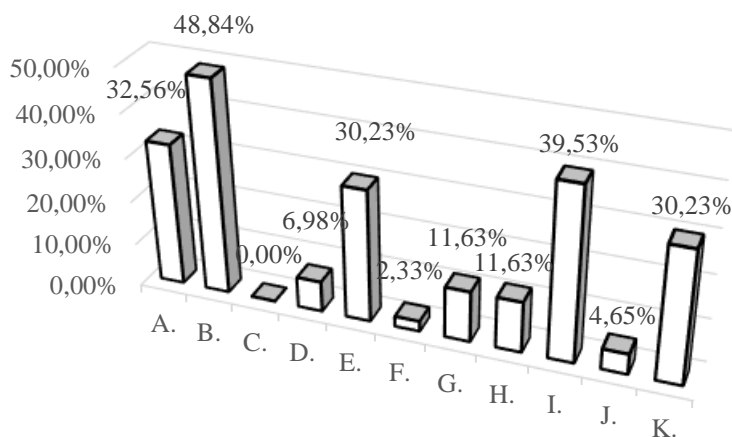
The strategic diagnosis can provide answers to these and other nodal questions the specificity of which refers to both elementary issues regarding the rationality of the competitive position assessment, as well as to the management whose decisions directly translate into a specific and unique development path chosen by the entity.

In the last question of the survey (No. 14), respondents were asked to determine the determinants determining the effectiveness of corporate governance. Each respondent could select several variants of the answer from among eleven options (Figure 19).

In light of the above data, it should be noted that the respondents considered the functions of the supervisory body (48.84%) and the criteria for selecting candidates for supervisory boards in companies (39.53%) as the most important determinants determining the effectiveness of corporate governance. Determining the plurality of members of the board is a basic condition for optimal cooperation with the company's management board, shareholders, stakeholders or shareholders.

A wide range of powers held by the board is a very important aspect of its effective functioning, which is also an immanent element of activities for the sustainable development of the company. At this point, it should be added that the synonym of an effective supervisory board should primarily be interpreted as a body exercising permanent supervision over the company's activities in all areas of its activity.

**Figure 19.** Summary of responses (in %) provided by the survey respondents: Please specify the factors – determinants of corporate governance effectiveness? (more than one option could be selected).



- A. *Composition and size of the supervisory authority.*
- B. *Functions of the supervisory authority.*
- C. *Length of term.*
- D. *Frequency of meetings*
- E. *Notification system.*
- F. *Committees and teams.*
- G. *Cooperation with auditors;*
- H. *Procedure for the selection of members of the supervisory authority.*
- I. *Selection criteria (knowledge, experience, independence).*
- J. *The role of the chairman of the body.*
- K. *Working conditions (remuneration, assessment of work efficiency).*

**Source:** Own elaboration.

Knowledge, professional experience (sectoral) and independence are the main criteria that should characterise candidates for supervisory boards in national companies in the energy sector. The respondents who know the functioning of councils "from the bottom up" represent the view that the most important verifier of applicants should be professional qualifications acquired in the industry, understanding the mechanisms and processes occurring in it and a specific autonomy manifested by the ability to make quick and independent decisions.

The respondents believe that the composition of the supervisory board (32.56%) and the system of information flow on the line of decision-makers – the control body (30.23%) as well as the working conditions of members of supervisory boards (30.23%) are the main factors quantifying the effectiveness of corporate governance.

The issue of substantiveness and appropriate qualifications of the members of supervisory boards, which has been discussed many times in this study, is the dominant in the general perception of the competence of this category of advisory bodies.

Information constitutes the basis for the functioning of each entity in the contemporary, global and very dynamically changing services market. The multiplicity and general availability of data sources increases with the progress of technology and the information deficit may constitute a peremptory axiom on the way to the collapse of a market player. The dynamically changing environment in which a given company operates forces it to adapt as dynamically and making the right decisions quickly, which will make it easier for the company to adapt to the existing situations, may turn out to be a distinguishing factor compared to the competition (Sirko *et al.*, 2020).

Working conditions are a set of factors that characterize the working environment and resulting from the work process. These are also conditions related to the performance of work, affecting its quality and efficiency. Therefore, it is not surprising that the survey participants also pointed to this component as a factor that actually influences the quality of the functioning of supervisory boards in energy sector companies.

## 5. Conclusion

When undertaking the evaluation of the obtained research results, it should be stated that they constitute the sum of all undertaken activities (analytical, empirical, comparative, etc.). Thanks to the multifaceted approach to the studied issues, it was possible to obtain data and collect knowledge and information enabling direct reference to the indicated research problems as well as to verify the adopted hypotheses. At this point, it is necessary to remind the Reader again that due to the strictly defined editorial requirements for the studies published in ERSJ, this study presents only part of the obtained research result. However, the empirical material collected during the survey already allows for recapitulation and conclusions.

It should be remembered that the research activity referred to the actions and behaviours of decision-makers operating in companies (members of management boards) and persons co-creating supervisory mechanisms (members of supervisory boards). In addition, the focus was placed on audits and mechanisms for the use of such managerial tools, including the implementation of new solutions of a corrective, corrective and preventive nature.

In the context of the formulated leading research problem, the results of the diagnostic survey (survey) confirm the thesis that corporate supervision in enterprises of the national energy sector does not fully use available control tools in the form of an audit. Such a state of affairs is due to, among others, a conservative scheme of the behaviour of decision-makers in companies and a lack of trust in other available types of this form of control, e.g. efficiency audit or strategic audit.

However, the result of the research activity allows us to look to the future with optimism, because the decision-making and advisory bodies located in Polish energy companies clearly outline the search for new efficiency solutions, which in their essence will not only verify the current results achieved by the entity but will also contribute to the construction of long-term concepts of sustainable development of these enterprises and their immediate environment.

The survey responses allowed for substantive reference to all four specific problems. Among the factors determining the effectiveness of the activities of supervisory boards, two determinants were put forward in the foreground, i.e. reliability in the flow of information on the Management Board – Supervisory Board line and quality in cooperation of these decision-making and advisory human teams.

Similarly, in the case of the second detailed problem, as the respondents significantly distinguished two desirable components of the model profile of members of supervisory boards of energy sector companies in Poland. These were issues strictly correlated with the knowledge of the energy sector, including professional experience in the field of management in the sector and knowledge of the industry.

In the context of the third specific problem, as the most commonly used type of control activities, half of the respondents indicated a financial audit, which is now a basic tool used in all inspection initiatives undertaken in entities of the energy sector. On the other hand, the position of the persons participating in the research activity in relation to the last detailed indication was expressed in the indication of other types of financial audit, i.e. efficiency audit and investigative audit.

Referring to the main hypothesis, which was verified as part of the research effort, it should be pointed out that it was clearly confirmed. The respondents expressed their approval of the thesis, "...that corporate supervision is an indispensable instrument of management control in companies of the national energy sector, and its effectiveness depends on proper cooperation of supervisory board members with the management of these entities as well as on the creative use of the audit tool".

Similarly, detailed hypotheses were found, including the obtained research material allowed for a categorical confirmation of the suppression No. 1, 2 and 3, as well as for indicating in response to the hypothesis No. 4 other more effective forms of control (efficiency audit and investigative audit) undertaken as part of corporate

supervision over companies of the national energy sector. The probing of new trends and tendencies in the scope of modifying the previously used schematic control solutions should also be considered a significant enrichment of the conducted research.

It is to be hoped that the obtained research result will constitute the basis for further reflection on the discussed issues and will also, to a certain extent, translate into the perception of the role of advisory bodies located in energy sector companies and improve their work, which in turn may improve the efficiency of the functioning of these entities in the national and international services market.

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