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# The Strategic Hybrids of Water Supply Companies as an Effective Management Tool

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Received: 29 August 2018; Accepted: 23 November 2018; Published: 27 November 2018


**Abstract:** The mechanisms of water supply company management have been dynamically evolving recently. This is particularly related to factors that regulate the functioning of companies in this sector. This applies both to embedding such entities in the legal structure, and the management rules at both the strategic and tactical-operational levels. It is increasingly important how decisions are made in the conditions of pressure, limitations, opportunities and threats that these companies, which create value for stakeholders, face. This way of making decisions is determined by the adopted model of business, strategy, business processes and strategic projects that create a kind of a strategic hybrid. The hybrid determines the effectiveness of water supply companies that operate in accordance with the rules of the regulated market.

**Keywords:** strategic hybrids; business model; strategy; business processes; strategic projects; water supply companies

## 1. Introduction

The business model of water supply companies is mainly based on the principles of 'reasonable profit, reasonable costs and expected revenues', but also takes into account the specificity of being public services.

This strategy is implemented by an adopted bundle of strategic goals, whose recipients are company stakeholders. From this perspective, business processes present a value chain, the result of which is a product (water) that is supplied in accordance with the adopted parameters described in the measurement system of water supply companies. Strategic projects, however, defined in the so-called project portfolio, mainly determine the investment dimension of growth and development of these entities. A special blend emerges that creates a management tool, that is the joint operationalization of the business model canvas, a strategy map, a process map and a project matrix for water supply companies. The aim of the paper is to identify the effectiveness of the principles of the operationalization of the strategic hybrids of water supply companies. This paper analyzes the strategic hybrids of several water supply companies based in Silesia with a diversified capital, resource and location structure. The authors argue that in order to achieve high effectiveness, water supply companies have to build and implement a consistent strategic hybrid.

The research problem discussed in this paper is as follows: The joint and consistent implementation of a business model, strategy, business processes, and strategic projects (in the form of a strategic hybrid), while taking into account risk management, affects the economic and social effects of water supply companies.

The occurring research gap is as follows: There is a small amount of scientific research into the use of a strategic hybrid in individual sectors of the economy, including water supply companies.

## 2. The Outline of Scientific Discussion

The issue of strategic management is currently a very dynamically developing area of science. Due to the use of various paradigms in it, it is interdisciplinary both in theoretical and practical terms. This all causes the multidimensionality of the issue, which should result in highly effective company management, taking into account sector specific conditions. The search for effective solutions applicable in business becomes a challenge for contemporary managers of modernly managed companies. A holistic, comprehensive and clearly exposed approach is thus required. The understanding of macroeconomic conditions and a given sector along with microeconomic conditions allows for the creation of effective management mechanisms. The authors would like to present the issue of the strategic hybrid of water supply companies in such a cognitive perspective.

The main purpose of the paper is to demonstrate that the use of a strategic hybrid model, that takes into account economic and social objectives, and at the same time creates the mechanisms of the effective management of water supply companies—especially those operating in the network environment.

A scientific goal is to identify a scientific problem and a cognitive gap. According to M. Lisiński, it can be stated that there will be two sources of scientific problems in management sciences. The first problem will be theoretical research related to the lack of knowledge about theory, undertaken within the theoretical trend. The second problem will be a theoretical discussion undertaken within the empirical trend. It constitutes a theoretical superstructure of practical problems. Therefore, it can be concluded that a scientific problem in management sciences will always concern a theoretical discussion and it will be a theoretical problem. "At present, the methods used to solve scientific and practical problems identified in organization management should be considered (...). A deduction method will be used to solve scientific problems in management sciences related to the lack of knowledge about theories that are undertaken within the theoretical trend. It is supported by a number of auxiliary methods and techniques belonging to formal sciences, including, for example, classification, modeling or deductive reasoning" [1].

In the paper, the abovementioned argumentation was adopted, based on which a scientific problem was presented. It is related to the fact that a key factor related to the development of water supply companies is the precise determination and assessment of mechanisms for the effective use of a strategic hybrid built from a business model, strategy, business processes and projects. A cognitive gap emerges from such a research problem, based on the fact that currently there is no scientific research and resulting inference related to the efficiency of strategic management systems using the strategic hybrid discussed, as well as key attributes that determine the conceptualization and operationalization of these systems in the efficiency criterion. In light of the achievements of organizational theory, efficiency is a superior category in relation to concepts, such as productivity, profitability, efficacy, and even rationality. In this context, efficiency can be understood as an input-output ratio, the ability to quickly adapt to changes, a measure of the organization's ability to implement strategy and achieve goals, and a tool for measuring effectiveness and efficacy [2].

The authors understand management efficiency as a set of rational actions, focused on dynamic decision making under the conditions of pressure, limitations, opportunities and threats guaranteeing that the company will achieve its business goals. A company will focus its attention on the efficiency of processes and the ability to permanent changes using a variety of management methods and techniques. The authors understand the mechanisms of effective strategic management as a set of principles and approaches to making management decisions, using the best possible tools, methods and management techniques.

Within the framework of theoretical assumptions related to solving a scientific problem defined related to the strategic management of water supply companies, an analysis was conducted aimed at embedding this problem in the theory of management sciences. In order to correctly identify a phenomenon occurring in science, it is important to refer to scientific discussions that determine the principles of the adopted, appropriate interpretation. According to J. Niemczyk, it is much easier to

build scientific hypotheses than verify them as scientific knowledge. It is much easier to falsify existing scientific knowledge than verify it positively. It is much easier (stereotypically) to use quantitative rather than qualitative methods. Building scientific knowledge requires discipline. It is not possible to treat any solution to a problem as a learning process. Creating science requires a scientific approach, at least in its methodological part. From this perspective, the dilemmas indicated aim to serve the right choices, relevant to the context of the hypothesis examined or a research question [3]. In this approach, it is very important to understand the place and role of a given theory in relation to various scientific disciplines. According to Ł. Sułkowski, the most important argument for drawing inspiration and combining the approaches of various sciences is to seek the integration of problems and scientific methods. The ordering of scientific areas, fields and disciplines is a kind of social and academic convention, while many research problems are located at the intersection of different disciplines [4]. This is the case with the mechanisms of the effective strategic management of water supply companies as a significant scientific problem in the present time in terms of creating a scientific theory. It is worth citing the definition of a problem in management according to Z. Mikołajczyk, where a problem is a situation or a task that cannot be solved using existing patterns. The problem is solved by finding an optimal, rational or satisfactory way of acting in given conditions [5]. Research in the area of management problem categorization is a serious challenge for management science methodologists. In addition, they are struggling with the difficulty of operationalizing this type of construction, especially with the identification of elements that should be included in the management problem category [6]. As a result of the operationalization of the theoretical construct, a research model is created, illustrating variables that are studied and measured, and their interrelationships that take the form of hypotheses (...). In research practice, the hypothetical-deductive models built are more complex, and several different relationships are taken into account in one model. However, what is a key element in the research model construction is to precisely define individual variables, and what should result from the research problem, the adopted theoretical and conceptual framework because depending on the adopted research concept, individual variables may have different functions [7]. Practical management problems are the most important driving force behind the development of organizational theory. How does this driving force work? Practical problems result primarily from the changing conditions of competition. These problems are solved by managers who, together with their teams, achieve success and ensure a competitive advantage to their organizations. These successes are described and generalized, and also explained on the basis of more general, usually psychological, sociological or economic, sometimes technical regularities. In this way organizational theories emerge [8]. It should also be remembered that, formally, one of the sources of scientific problems can be a research gap. Filling this gap is that is most often the motivator of undertaking scientific and research work [9].

Research and scientific discussion covered the functioning of the water supply sector in Poland in 2007–2017. In order to achieve the assumed objective, the qualitative longitudinal research among water supply companies building and using strategic management systems in the form of a strategic hybrid consisting of a business model, strategy, business processes and strategic projects in the above time period was applied.

Research into the dynamics of organizational and managerial processes should, by its very nature, be longitudinal as a result. In such research, in order to understand a process, the search for mechanisms of change becomes more important than determining the stages of development [10].

It is very difficult to draw conclusions about the organization's activity by looking at parts from the study of various organizations. It is cognitively more valuable to look at a few of them in action, seeing how their parts interrelate from the perspective of their initial and final state. In this way, changing and static elements can be distinguished. Such knowledge is essential for every researcher. Theoreticians are aware of this, which is expressed in at least one level of theorizing, namely attempts to locate their theories in a dynamic approach, but unfortunately often with a tendency to examine only cross-sectional data based on which theories are generated and tested [10].

Longitudinal research requires the study of same people, subjects or cohorts. Analyses conducted are exploratory in nature. According to J.R. Kimberly [11], longitudinal scientific research consists of such techniques, methodologies and activities that enable the observation, description and/or classification of organizational phenomena in such a way that processes can be identified and empirically documented. In principle, longitudinal research examines processes in many periods. The method used is a diagnostic survey can provide information regarding the mechanisms of effective strategic management in the water supply sector. Due to the nature of longitudinal research, the observations were of a repetitive nature, which guaranteed the assessment of changes in the dynamics of safety development. Research conducted in the specified measurement period met the criteria of the representative sample. In the case of longitudinal research, the method of its conducting allows for observing the same objects many times: Water supply companies over many years (in this case, 10 years).

This research was based on a time criterion and was used to understand the mechanisms of change and factors affecting the behavior of enterprises in terms of strategic management systems. These economic entities functioned in the same socio-economic period, where at the time they were influenced by the same external factors, such as legal requirements or others. The changes related to the factors that influence the strategic hybrid of the companies analyzed, found in this research are so well documented that there is a low probability of misinterpretation.

As part of the research method of the mechanisms of the effective strategic management of water supply companies, the following sequence of activities was adopted (Table 1).

**Table 1.** The sequence of activities as part of the research method of mechanisms for the effective strategic management of water supply companies based on a strategic hybrid.

| No. | Sequence of Activities as Part of the Research Method of Mechanisms for the Effective Strategic Management of Water Supply Companies |
|---|---|
| 1 | Gathering relevant literature about strategic management. |
| 2 | Analyzing the evolution of the concept of strategic management. |
| 3 | Defining key management attributes taking into account strategic reflection |
| 4 | Selecting the research sample of mechanisms for effective strategic management. |
| 5 | Defining characteristics that describe the specificity of strategic management in the water supply sector. |
| 6 | Analyzing contextual conditions of the Polish and European water supply market included in legal provisions and their practical implementation. |
| 7 | Defining good practices in the strategic management of the water supply sector. |
| 8 | Developing analyses, resulting synthesis, conclusions and recommendations for improving the strategic management of the water supply sector. |
| 9 | Defining the theoretical determinants of effective strategic management in the water supply sector. |
| 10 | Indicating the new directions of the development of effective strategic management of water supply companies in theoretical and practical terms. |

Source: Own study.

The basic conditions necessary to maintain the correctness of the implementation of longitudinal research strategies have been preserved.

1. Research results can be generalized only as regards a group of companies functioning in the same period as the data collection period—this assumption has been retained.
2. This kind of research is very expensive—research was conducted as part of the processes of OTTIMA plus Sp. z o.o. specialized in the subject matter.
3. Another difficulty is to maintain constant contact with all subjects studied—this condition has also been satisfied.

Such defined research with the use of longitudinal qualitative studies allowed us to answer the research questions posed and achieve the goals defined in the paper. Such extensive experience of the authors

allowed for the creation of both a research apparatus and conducting wide theoretical and practical research. The inference is the result of comparing the issues of strategic management theory with their application solutions tested by the authors in management theory and practice. The study is cognitive and evaluative and is based on multidimensional scientific reasoning. The subject of scientific discussion includes scientific and application reflections on strategic management systems, including business models, strategies, processes and projects applicable in the water supply sector. It should be noted that by conducting a multidimensional analysis of the theoretical assumptions used for the proper structuring of the paper, the literature was reviewed from the perspective of a separate research method. The literature review is not a prelude to proper research, but a separate research method. The methodological rigor of this research, after all, affects the quality of conclusions, and subsequently, the correctness of hypotheses or interpretations of empirical research [12]. In this case literature was reviewed critically. A critical review involves a characteristic approach to the synthesis of multidisciplinary research, conducted by means of various methods, when criticism of the available literature is required, and the existing findings of researchers are questioned [13]. A feature of critical reviews is that they are focused on the creation of new theories [14]. The individual stages of the review are subordinated to this goal. As a result, less emphasis is put on the regularity and repeatability of search, selection, critical evaluation and synthesis methods. Instead of a standard assessment of the critical methodical quality of sophisticated research, resources are more specifically assessed in terms of their theoretical usefulness [15].

At the same time, key words were defined during a critical review of the literature and they were a basis for the selection of scientific articles constituting the source of the theory and its review. The selection of literature focused on scientific publications mainly from the last ten years appearing in well-known national and global scientific journals.

Cognitive objectives include:

1. Analysis of the principles of building strategic management systems in the water supply sector, including the conceptualization and operationalization of business models, strategies, processes and strategic projects.

Methodological objectives include:

1. Discussing key issues regarding business models, strategies, processes and strategic projects applicable in the water supply sector.
2. Developing strategic recommendations for the development and improvement of strategic management systems in the water supply sector.

Utilitarian objectives include:

1. Presenting the ways of constructing effective strategic management systems in the water supply sector to managers.
2. Presenting key mechanisms for increasing the effectiveness of strategic management systems in the water supply sector.

Within the framework of defined research objectives, the following research questions were posed:

Question 1. Are strategic management systems built from a strategic hybrid effective?

Question 2. What strategic management mechanisms built from a strategic hybrid ensure the effectiveness of water management systems in the water supply sector?

Question 3. What key problems do managers in the water supply sector face in terms of the development and improvement of the strategic management system?

Question 4. What are key factors that determine the effectiveness of a strategic management system built from a strategic hybrid?

Question 5. What are the limitations of individual methods and techniques supporting the functioning of a strategic management system based on a strategic hybrid and how should it be neutralized in the water supply sector?

The criteria that should be fulfilled by a water company with an effective strategic management system include:

1. They fully comply with all legal requirements.
2. They voluntary go beyond the binding legal requirements, creating management mechanisms towards increasing the management culture in the water supply sector.
3. They build the principles of full responsibility for the development and improvement of strategic management systems in the water supply sector.
4. They manage business continuity taking into account the criteria of strategic management.

Due to the multidimensional and holistic character of the functioning of the water supply sector, the subject of scientific discussion requires addressing many issues related to the theory of management science.

The paper is based on the following assumptions:

Macroeconomic assumptions:

1. In the situation of a globalizing market, strategic management systems must take into account the assumptions of economic liberalization.
2. The free movement of goods and services positively influences the development and improvement of strategic management systems of water supply companies.

Sector assumptions:

1. The place and role of the water supply sector in the economy is radically changing.
2. The water supply sector is becoming one of the crucial links in the economy.
3. The water supply sector and its management, technological and operational conditions affect other sectors of the economy.

The microeconomic assumptions of water supply companies:

1. Water supply companies should focus strongly on the constructive comparison of economic efficiency with the ability to create technological solutions in the criterion of strategic management.
2. A water supply company should be a source of permanent innovation taking into account the criteria of strategic management.
3. A water supply company should be a source of permanent innovation taking into account the criteria of strategic management.

The paper is based on the following restrictions:

1. In Poland, there is no unambiguous research into the effectiveness and efficiency of strategic management systems of water supply companies based on a strategic hybrid.
2. The high complexity and multitude of strategic management criteria result in difficulties in identifying clearly the mechanisms of the effective functioning of management systems in the water supply sector.
3. A strongly legally regulated system of the functioning of the water supply sector may limit the flexibility of using strategic management systems in the water-supply sector based on a strategic hybrid.

## 3. The Description of the Water Supply Sector in the Province of Silesia

During research, the authors decided to conduct a synthetic analysis of the water supply sector in the Province of Silesia. The analysis shows that sustainable water and sewage management and water resources management are very important for the Province of Silesia due to its industrial character and high urbanization. The Province of Silesia is characterized by high topographical diversity and

unequal spatial distribution of waste. This fact directly affects the diversification of the area of the hydrographic network. The exploitation resources of groundwater in the Province of Silesia in 2014 are low compared to domestic resources. The province occupies only the eighth place in the country (945 $hm^3$), while the Mazowieckie Province with most resources had 2199,4 $hm^3$ of resources. The total geodesic area of the Province of Silesia (as of 1 January 2016) amounted to 1233,3 thous. ha and accounted for 3.9% of the country's area (on the basis of: Waste management plan for the Province of Silesia for 2016–2022, IETU Katowice IMBiGS, Katowice branch, SAVONA PROJECT Sp. z o. o.). Taking into account the data of the Data Bank, the length of the active distribution network in the Province of Silesia (expressed in kilometers), an upward trend can be observed. In 1995, the length was 15,365 km, and in 2017 it reached the value of 21,550 km. Therefore, the distribution network is constantly developing.

Having data on the population using the water supply network in the Province of Silesia, a decreasing trend can be observed from 2002 to 2013, from the value 4,381,666 to 4,305,137. However, in 2014 there was a huge increase in this area, even exceeding the maximum value from 2002. 4,385,171 people from the Province of Silesia used the water supply system in 2014. According to the Local Data Bank, the 2014 estimates of the population using a sewage system were given according to the revised estimation method. Despite this significant increase, the trend continued to decrease from 2014 to 2016, where the population was 4,365,021. Comparing the data on the increase in the active length of the distribution network in the Province of Silesia (km), the trend is opposite in the case of the number of people using the water supply system. (Figure 1).

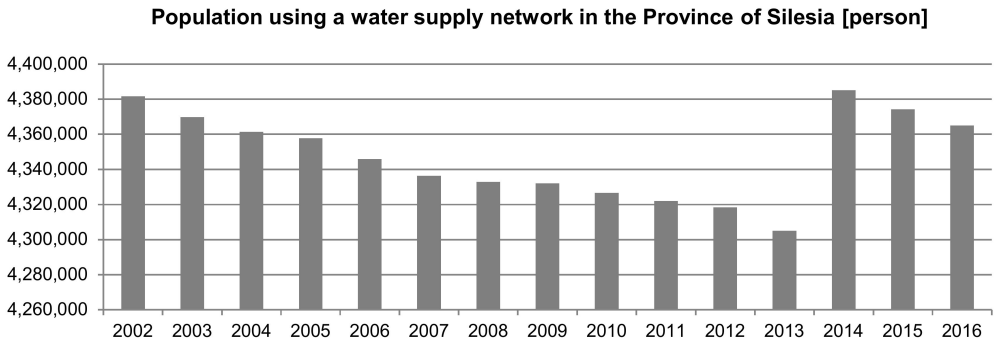


**Figure 1.** Population using a water supply network in the Province of Silesia (person) in the years 2002–2016. Source: Own study.

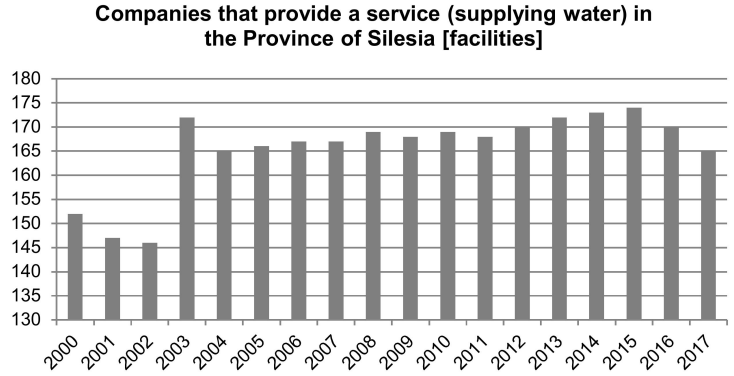


**Figure 2.** Companies that provide a service (supplying water) in the Province of Silesia (facilities) in the years 2000–2017. Source: Own study.

In the context of the analysis, it is worth looking at the number of companies that provide water supply services. In the Province of Silesia, their number fluctuated in the years 2000–2017. In 2002, 146 companies dealing with water supply were recorded (which is the lowest value in the analyzed period) and their number increased to almost the maximum value in the analyzed period in 2003–172

companies. The maximum number was 174 in 2015. Since then, the number of water supply companies have been decreasing. However, according to the comments of the Local Data Bank, data for the years 2008–2011 may be incomplete. Figure 2 shows the companies that provide a service (supplying water) in the Province of Silesia (facilities).

Taking into account the fact that the length of the sewage network is constantly increasing from year to year, and the number of companies providing water supply services is still high, it should be mentioned that the Province of Silesia is constantly investing in the entire water management.

The analysis presented refers to the key strategic resources of water supply companies located in the Province of Silesia. It should be noted that this is one of the most dense and complicated networks, because it is located in a large urban area of an industrial nature. This affects the number of inhabitants directly as well as the number of companies in this area with a very large strategic potential.

## 4. High Company Performance

The complexity of this process results from the specificity of companies as unique business entities, the multitude and diversity of phenomena occurring in the course of company operation as well as from the various scopes and tools for measuring their effectiveness [16].

Companies operating in the market, often in a network environment, do not search for mechanisms to achieve performance, but they search for mechanisms to achieve high performance. One of the key definitions of high performance organizations is the definition developed by A. de Waal. The author states that a high performance organization achieves better financial results than those achieved by another group representing the same status for a longer period, thanks to the ability to adapt to changes and respond quickly to them through long-term management, the establishment of an integrated and targeted management structure, by constantly improving the main potential and by treating employees as their main value [17].

A. A. Waal combines the concept of a high performance organization with the assumptions of strategic performance management, where he defines the basic benefits of using this concept in the form of high quality strategic information, information retrieval time, management support, communication effectiveness and setting organizational culture principles [18].

P. C. Light defines four pillars of high performance:

- *Alertness*—Alertness is the first pillar of solidity. Organizations have little reason to reallocate, train, renew or adapt if they do not see the upcoming changes. (...) However, alertness is more than just planning techniques. It also involves a basic commitment to the rigorous monitoring how the organization is doing at the moment.
- *Agilityan*—organization actually sets up a signpost and discovers when an assumption does not work well in some respect and has time to take action. Although this knowledge may be interesting as a herald of incoming turbulence, it is useless if the organization cannot react.
- *Adaptability*—Adaptability is not synonymous with what is innovative. It is rather the ability to adapt strategy and tactics quickly to meet changes in the environment. Sometimes adaptability requires a technical breakthrough, such as an Intel multi-core chip; or it involves gradual changes in response to market pressure. As such, innovation is a form of adaptation, but not every adaptation is innovative.
- *Alignment*—another matter is the process of planning the Air Force or the development of general school reforms, and another is the implementation of the program to help children on a relatively small scale. Regardless of whether the change is large or targeted, the organization as a whole must be involved in the mission [19].

According to L. Holbeche, a high performance organization is an organization that strives to reconcile contradictory goals. The most important elements of this model include:

- An ability to change,

- A context rich in knowledge for creating innovations,
- Organizations without borders,
- Committed people,
- An ideal place to work,
- A value-based organization [20].

D. Miller, I. Le Bretton-Miller define four key priorities of a high performance company in the long-term perspective:

1. Command.
2. Continuity.
3. Community
4. Connection [21].

## 5. The Specificity of Public Services

Public services are defined as those aimed at improving the quality of life of inhabitants. They help to ensure a uniform standard of social benefits and equal access opportunities [22].

To explain the essence of public services and their management in terms of satisfying the needs of citizens or inhabitants of a specific territory, three types of these services can be distinguished [23]. First of all, these are services for citizens related to citizenship and residence in a given state territory, such as ensuring public safety or environmental protection. In addition, an important group of public services is providing households with utilities in the most important spheres from the perspective of the state and its citizens. These are situations when private organizations do not do it at their own risk, and social organizations do not have the opportunity to provide these services without the support of public entities, e.g., social welfare or free educational services at the basic level. The provision of services that create conditions for the proper functioning of all—business, social and public—sectors is an underestimated and sometimes even overlooked the type of services. They include investments in social and technical infrastructure, security of business transactions, and regulations ensuring equal treatment of organizations from all sectors. This classification directly refers to the nature of public services. Bearing in mind the nature of public services, they can be grouped as in Table 2.

**Table 2.** Classification of modern public services.

| Categories of Public Services | Types of Public Services |
| --- | --- |
| Administrative services and e-services | Issuing documents that are not administrative decisions, permits, or concessions<br>Entering data obtained directly from customers into databases<br>Granting permits and making decisions in accordance with the Code of Administrative Procedure<br>Granting permits and concessions regarding economic activities regulated by the state |
| Social services and e-services | Healthcare<br>Education and upbringing<br>Culture<br>Physical culture and recreation<br>Social welfare and care<br>Housing industry<br>Public safety |
| Technical services | Transport—services and infrastructure<br>Water supply and sewerage<br>Waste management and maintenance of cleanliness and order<br>Cementary services<br>Energy supply (electric power, gas, heating)<br>Public greenery |

Source: Reference [23], (p. 33).

Improvement in public services management mainly concerns increased availability and improvement of the quality of services provided by public administration units, which should create conditions for their effective implementation based on defined standards and a specific market of service providers.

As regards the economics of services and the management of services provided by local government, it is useful to distinguish municipal services and their management models [24]. Most often, three core models are indicated: Autonomous, commercial and external outsourcing, as well as mixed models that use the elements of core models [25].

A dozen or so years ago, the sources of improvement in the effectiveness of public service provision were seen as improvement processes in the following areas: Organizational structure, planning and decision making, motivating, evaluating and rewarding, communicating with the environment, organizational culture, controlling and, on the other hand, using modern management tools, such as strategic management, organizational change management, and shaping relationships with stakeholders. In addition, these issues were often focused on as selected research problems.

Unlike in previous studies, the analyses conducted in this research are characterized by the application of the concept of business models, which allows for the consideration of many areas as interrelated and perceived in perspectives appropriate to this concept.

## 6. Business Model in Defining Business Management Mechanisms in Strategic Terms

When analyzing the mechanisms of effective strategic management, it is important to determine the key ontological being that determines the development and growth of the organization. It seems that it is now a business model. The model and its configuration contribute not only to competitive advantage and standing out in the market but, above all, achieving high company performance. It is important, however, that there are many definitions of business models that create this particularly complex issue. To explain the place and role of the business model, its basic definitions were presented with reference to the key word sequence referring to the concept of the model.

The definitions presented in the Table 3 are important to understand the business model in the context of its structure, which allows for combining this ontological being with other beings, creating a specific strategic hybrid.

**Table 3.** List of selected definitions of a business model along with a reference to the key word sequence referring to the concept of the model.

| No. | Source | Selected Definition of a Business Model | A Key Reference to the Concept of the Model |
|---|---|---|---|
| 1. | P. Timmers [26], (p. 4) | An e-business model is an architecture of the product, service and information flows, including a description of the various business actors and their roles; | Architecture |
| 2. | G. Hamel [27], (p. 74) | A business model is, associated with customers, a composition of core strategy, strategic resources and value network | Composition |
| 3. | R. Amit, C. Zott [28] | A business model is a system of interconnected and interdependent activities that determines the way the company "does business" with its customers, partners and vendors | System |
| 4. | A. Osterwalder, Y. Pigneur, C.L. Tucci [29] | A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm | A conceptual tool |
| 5. | B. Nogalski [30] | A business model is a general concept, formulating the framework of business logic and its features, such as innovativeness or competitiveness. | Concept |

**Table 3.** *Cont.*

| No. | Source | Selected Definition of a Business Model | A Key Reference to the Concept of the Model |
|---|---|---|---|
| 6. | A. Jabłoński [31], (p. 19) | A business model is understood as the mapping, in a given place, time and business space, of the structure of relationships between factors that guarantee the fulfillment of current, internal and external needs of stakeholder groups, which enables a company to gain competitive advantage and is the creation of a future platform for company growth and development that ensures business continuity | Mapping |
| 7. | J. Niemczyk [32], | A business model is a blend of strategy, tactics and operational activities that is the key to success in a given group of businesses and in a given period | Blend |
| 8. | D. J. Teece [33] | A business model articulates the logic, the data and other evidence that support a value proposition for the customer, and a viable structure of revenues and costs for the enterprise delivering that value | Logic, Architecture |
| 9. | J. Muehlhausen [34], (p. 30) | A business model is a framework of rules and moral imperatives within which the business operates. It provides the strategic context for both the long and short term. It defines and articulates strategic intent, which then becomes the common focus and driver among all levels of strategic management (Missions, Objectives, Strategies, and Tactics). The combination of these four becomes the compass and laws, by which the organization navigates and the glue that holds it all together. | Framework |
| 10. | T. Falencikowski [35], (p. 37) | A business model is a relatively isolated multi-component conceptual object describing running a business by articulating the logic of creating value for the customer and capturing part of this value by the company. | Relatively isolated conceptual object |
| 11. | M. Jabłoński [36], (p29) | A business model is a specific combination of tangible assets and intellectual capital used to implement a value growth strategy appropriate for a given market situation. | Specific combination |
| 12. | P. Banaszyk [37], (p. 9) | A business model is a more or less developed image of the desired development of the business and its conditions. | Image |
| 13. | Morris et. al [38] | A business model is a concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create a sustainable competitive advantage in defined markets | Concise representation |
| 14. | Gołębiowski et. al [39] | A business model is a new conceptual tool, containing a set of elements and mutual relationships, which presents the logic of the operation of a given company in a specific field (business). | Conceptual tool |

Source: Own study.

## 7. A Hybrid Approach in the Strategic Management of an Organization—Strategic Requirements

In the modernly managed world of business and economy, new approaches that determine the development of management sciences emerge. In this perspective, various goals of running a business are revealed, not only in strategies, but in the full models of the functioning of companies. Classical economics is often superseded by social economics, the sharing economy, and network economics. In view of these changes, a new dimension of enterprises is created, namely social enterprises.

Social enterprises are responsible both for social mission and for making profits. Due to their hybrid nature, they are required to achieve both social and financial results [40]. It is also worth noting that in the last decade new organizational forms appeared at the meeting point of business and

non-profit sectors in the context of state withdrawal and new management methods, clearly revealing the blurring borders. This phenomenon has been largely investigated in the broader context of corporate responsibility, where business helps solve social problems, such as poverty or environmental degradation, and at the same time increasingly plays a strong public role [41].

The pressure towards being both financially viable and socially responsible has led both for-profit companies and non-profit organizations to a hybrid zone, which some people even call a "hybridization movement", which includes both the social and financial basis of activity. This movement into a more hybrid-like approach takes different names, such as the shared value approach, conscious capitalism, social entrepreneurship, benefit corporations and B corporate certification [42].

Hybrid organizations are associated with a rapid change in the use of technologies, materials and practices and are high-risk companies that critically rely on their management control systems [43].

Hybrid organizations are also supported by a new and growing group of people who put greater emphasis on a healthy lifestyle, environmental and social justice and ecological sustainable development of products and services they buy, companies they invest in, politicians and policies that support, companies they work for and ultimately, the lifestyle they lead [44]. In this context, the value created is related to the economic value and competitive advantage, resembling more the hybrid forms of an organization where value can also take into account social needs [45].

Therefore, we adapted the hybrid approach to actions that also prevent risk to examine how the behavior of managers differs from the general assumptions of the model, such as neutrality and rationality of risk, influences the results of planning and analyzes the results of a hybrid approach for two different behavior patterns [46].

Analyses also show that a hybrid competitive strategy can also affect some dimensions of the organizational structure, although such a structure does not have a direct impact on performance. Therefore, the organizational structure can play an important role in gaining a competitive advantage through its influence on the development of competitive strategy [47].

Critical analysis emphasizes that the regulatory policy of organizations that do not use appropriate regulatory tools may have a significantly adverse impact on competition and consumer welfare [48]. Hybrid logic seems quite convincing that the existence of such a regulatory relationship reduces opportunist behavior, and the presence of the regulatory agency ensures a procedure that is necessary to solve problems, but the question remains whether this model can be consistent and sustainable for a long time [49].

A hybrid assessment model may be considered as one of the mechanisms used to increase the internal control capability in public sector organizations and to limit some inconveniences associated with purely internal approaches to assessment. Advantages and challenges associated with the use of the hybrid model can be presented on the basis of a literature review and case studies. Some recommendations regarding the use of hybrid assessment models are also available to those interested in implementing similar strategies [50].

Supply chain participants also decide to use hybrid business models to respond to changes in customers' requirements (and be able to compete in today's market) [51].

Hybrid management forms are a problem because of limitations that may affect their results. There is limited knowledge of how these hybrids work, especially in different socio-ecological and economic contexts. Their results may vary depending on the range of possibilities of combining different institutions and the presence of various interests and objectives of the participating institutions. Moreover, these forms are likely to fail in achieving fair and lasting results if they do not deal with local power relations problems or if they are managed and designed by entities with their own interests [52]. Table 4 below presents the selected typologies of a hybrid approach.

**Table 4.** Typology of a hybrid approach—selected aspects.

| | **Typology of a Hybrid Approach—Selected Aspects** |
|---|---|
| Hybrid in the criterion of an organization's goal | A hybrid organization is an organization focused on profit for social purposes.<br>A hybrid organization, i.e., a social enterprise, meets at least the following criteria: Explicitly expressed social goals; directly expressed economic goals (understood as striving to obtain a certain level of revenues from the sale of products and services and as bearing economic risk); democratic management; social property [53]. |
| Hybrid in the criterion of methods and management concepts | Municipal sector enterprises are firmly embedded in both new public management as well as the general concepts of organization management.<br>Then management methods and techniques are constructively compared, which determines the development and growth of such enterprises. If we refer to the definition by B. Kożuch in the field of public management, public values become crucial as well as the public interest, the achievement of which is possible by building mutual trust [54]. |
| Hybrid in the criterion of the regulated and business market | In the regulated sectors, the concept of profit is strongly formalized and subject to strict control in such a way that its framework is within legally set limits that define closely monitored sections.<br>Although the goal of achieving profitability is maintained, its value determined top-down and the need to maintain it at a certain level is one of the key determinants of business management and the fundamental determinant of business model design.<br>After all, profit is a priority aspect of enterprise survival and development. |
| Hybrid in the criterion of the application of ontological entities | The method of making decisions in water supply companies is conditioned by the adopted business model, strategy, business processes and strategic projects creating a kind of strategic hybrid. This hybrid is a determinant of the effectiveness of water supply companies operating in accordance with the rules of the regulated market. The dimension of the business model of water supply companies is mainly based on the principles of the functioning of so-called reasonable profit, reasonable costs and expected revenues.<br>The strategy is implemented by an adopted bundle of strategic goals whose recipients are company stakeholders. Business processes in this approach present a value chain, the result of which is a product, which is water, supplied in accordance with the adopted parameters described in the measurement system of water supply companies. Strategic projects defined as the so-called project portfolio mainly determine the investment dimension of growth and development of these entities.<br>A special blend emerges that creates a management tool, that is the joint operationalization of the so-called business model canvas, a strategy map, a process map and a project matrix for water supply companies. |

Source: Own study.

The table shows the key findings:

- A hybrid approach may have many dimensions.
- A hybrid approach may concern an enterprise itself and its ontological entities,
- A hybrid approach may also concern the impact of market mechanisms on the hybrid organization.

## 8. A Hybrid Approach in the Strategic Management of the Organization—Specific Interpretation

A strategic hybrid is understood as a blend of a business model, strategy and business processes, used to achieve an acceptable level of company performance in the short and long-term. A strategic hybrid can allow for the faster achievement of the assumed results due to its eclectic nature. Interrelationships between the strategy, business model and business processes may also determine the simultaneous development of the company in terms of product, market and resources. Consistency in the strategic hybrid is the mutual and interdependent compatibility of all components of the business model, strategy and business processes with specific criteria that ensure the ability of the company to achieve high performance in a long and short term. The result of hybridization is the so-called synergistic effect (a hybrid demonstrates features that are difficult to find in primary components). This hybrid creates new value based on a non-standard configuration consisting of predefined components, while ensuring its full integrity. The adoption of such a solution is a decision of prudent managers [55].

By making a detailed analysis of the concept of hybridization, hybrid approaches were combined by presenting the assumptions of a hybrid organization managed with the use of a strategic hybrid. In order to achieve long-term results, it is important to look at the company in a holistic manner. Then a certain strategic system can be set that determines its development. Using the interpretive approach, two ways to build strategic systems can be adopted. They are a strategic triad and a strategic hybrid.

The common goal of the triad and strategic hybrid is to capture higher value from the market by the company. A hybrid or strategic triad can be a blend of a business model, strategy and business processes. The authors believe that there is a fundamental difference between the strategic triad and the strategic hybrid. The triad occurs when its attributes, i.e., the business model, strategy and business processes come from a homogeneous, original system. The hybrid occurs when there is a configuration of hybrid attributes, i.e., a business model, strategy and business processes from other heterogeneous systems. An environment that is conducive to the creation of a hybrid is the network environment, because the probability of the origin of hybrid attributes from other systems is then very high. The hybrid is based on a specific and unique configuration, where at least one element comes from different heterogeneous components and through this situation, it creates a solution that offers a new value for the customer, giving the opportunity to capture more value from the market.

The use of the hybrid approach in the near future will be an effective tool for designing effective business models functioning in a network environment. A hybrid is treated as a combination of at least two components of a business model deriving from systems with different technological, organizational and process structure, but which provides a triad after applying specific integrity adjustments to the business model system, and thanks to this innovative and interdisciplinary link, it can successfully create the new assumptions of the income generation logic, a new value proposition and it will be characterized by innovation in the sphere of a business solution being a condition for business success. As part of some strategic triads based on a combined and consistent use of these three components (strategy, a business model and a process model), hybrid business models may be created, characterized by the fact that at least two components come from other systems. The condition for the positive effect of creating such a hybrid is to ensure the integrity of the company's strategic system. A strategy hybrid can be used in the context of using "clean" and/or "hybrid" business models, strategies and business processes. A strategic hybrid can then consist of:

1. "Clean" (single, homogeneous) business models, strategies and business processes.
2. "Hybrid" (multidimensional, complex, several-option) business models, strategies and business processes.
3. Combinations of (single, homogeneous) business models, strategies and processes, as well as "hybrid" (multidimensional, complex, multi-option) business models, strategies and business processes.

Hybrid business models and hybrid strategies can be used by hybrid organizations. Considering the importance of hybrid organizations in strategic management, selected elements of company hybridization can be defined:

1. The possibility of combining hierarchy and virtualization principles in the company structure
2. The possibility of combining systemicity and networkedness principles in management.
3. The possibility of structuralizing jointly and blurring the boundaries of the company.
4. The possibility of achieving company goals as seen from a short, medium and long perspective.
5. The possibility of dichotomous confronting the various resources of the company to achieve competitive advantages in the market.

In order to achieve the results assumed, the company can use the strategic hybrid.

In order to achieve the results assumed, the company can use the strategic hybrid. In the case of companies surveyed in the Province of Silesia, the water supply companies that have the greatest importance have a defined strategy, business model and business processes, and their effective implementation aims to ensure the integrity of the company's strategic system.

A strategic hybrid can be operationalized by means of a hybrid scorecard. The Hybrid Scorecard is used as a tool for measuring the effectiveness of a company embedded in the network. Undoubtedly, such an organization is a hybrid organization.

According to A. Jabłoński, the Hybrid Scorecard consists of four perspectives:

1. a strategy perspective,

2. a business model perspective,
3. a business process perspective
4. a network perspective.

The Hybrid Scorecard model of a company embedded in the network is presented below in Figure 3.

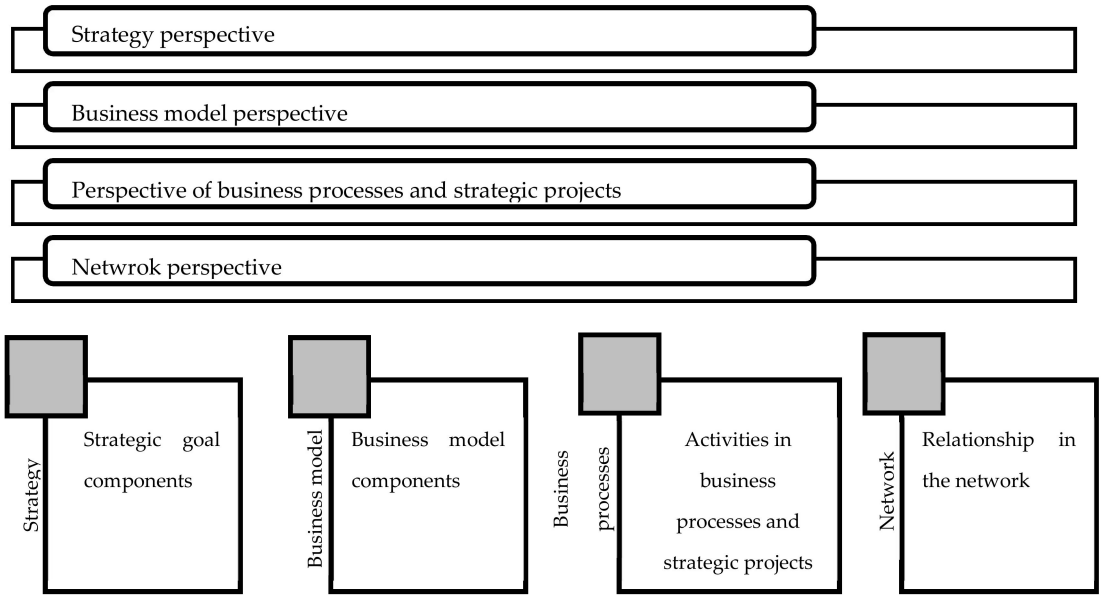


**Figure 3.** Modified Hybrid Scorecard of a company embedded in the network. Source: Reference [55], (p. 54).

There should be a balance between particular perspectives. Then the logic that ensures consistency between the individual elements of the strategic hybrid occurs. During the operationalization of the strategic hybrid, the strategy perspective is implemented by defining strategic goals and defining measures for their implementation. As regards the business model perspective, it is necessary to specify the key components of the business model and also determine the measures of their usage assessment. As regards the business process perspective, key activities in the processes must be defined and also measured.

It should be noted that the Hybrid Scorecard may mainly apply to companies for which the fundamental operating environment is a network environment, e.g., water supply companies. Hence the fourth, subsequent perspective in the assumptions of this model will be a network perspective. As regards the network perspective, the key relationships occurring in it are defined and a measurement system for the assessment of their functioning is built. The following is the graphical presentation of my own proposition of the Hybrid Scorecard for a company operating in a network environment. In the construction of the Hybrid Scorecard, it is particularly important to develop a hybrid measurement system for a company embedded in the network.

When analyzing tools that are necessary to implement a hybrid measurement system of a company embedded in the network, the following tools can be used for this purpose:

1. The Balanced Scorecard as a tool for the operationalization of strategy towards the management of company high performance.
2. The operationalization of the business model and it gaining an ability to achieve high performance by the company.
3. Systems for increasing the efficiency of processes so that the company could achieve high performance.

Figures 4 and 5 describe the hybrid measurement system of a company embedded in the network in terms of application.

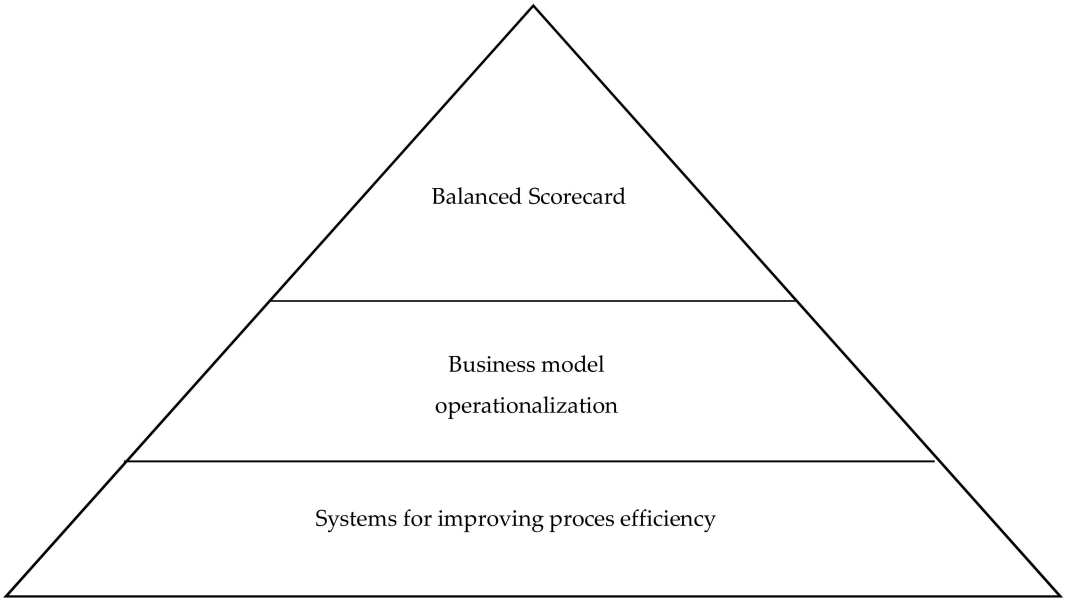


**Figure 4.** A hybrid measurement system of a company embedded in the network in terms of application. Source: Reference [55], (p. 57).

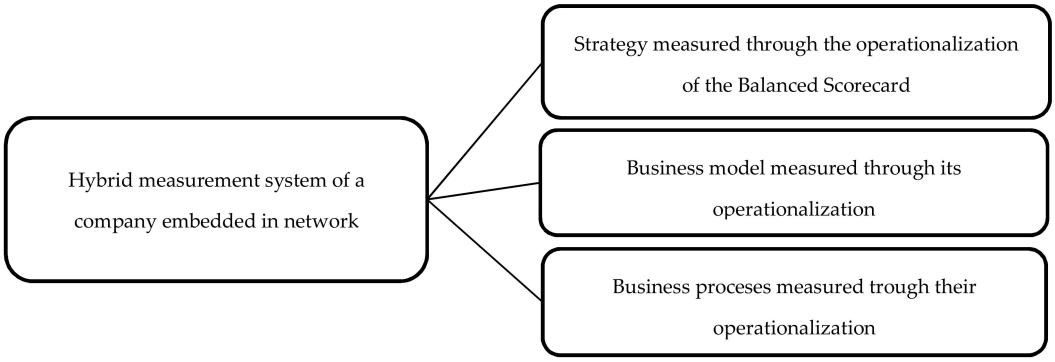


**Figure 5.** Operationalization of the hybrid measurement system of a company embedded in the network. Source: Reference [55], (p. 57).

A hybrid measurement system obtains information from three interrelated elements, which are a source of strategic information in the decision-making processes. This system determines the principles of achieving results in many dimensions.

Municipal sector companies are firmly embedded in so-called new public management, as well as in the general concepts of organization management. Then a constructive comparison occurs that determines the development and growth of this type of companies. If we refer to the definition by B. Kożuch in the field of public management, public values become crucial, as well as the public interest, the achievement of which is possible by building mutual trust. According to the definition by B. Kożuch, public management deals with examining the ways and scope of harmonizing activities that ensure that the goals of organizations that form the public sphere are properly set and the opportunities of organized human action aimed at creating public values and pursuing public interest are optimally used [54]. An interesting issue is the application of the concept of a strategic hybrid to organizations that function in the mechanisms of public management [55].

To sum up this discussion, it is worth noting that trust is crucial in defining a hybrid approach. It determines proper relationships with other stakeholders of public or social organizations. In this understanding, the key trust relationship that creates solutions in the criterion of the effectiveness of social or public organizations is important.

What is interesting is that in the relationship between reasonable costs, the revenues achieved and a reasonable profit, trust can be a factor binding this type of relationship (Figure 6).

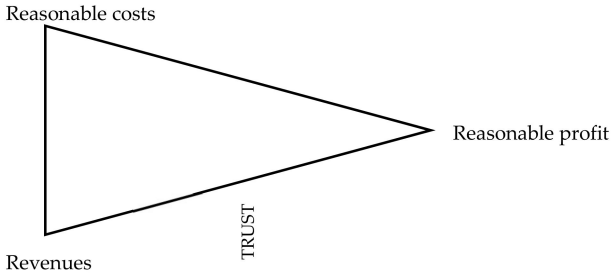


**Figure 6.** Trust as a determinant shaping the reasonable profit of hybrid organizations. Source: Own study.

Trust, therefore, becomes a link between individual stakeholders, while creating mechanisms for effective management based on the principles of reasonable profit.

## 9. A Hybrid Approach and the Mechanisms of Sustainable Development in Business Models and Corporate Strategies, Taking into Account Stakeholders' Needs

When analyzing the hybrid approach, it is worth paying attention to the mechanisms of effective company management in the environment criterion. An increasingly emphasized environmental aspect in business management and management of its value is related to the concept of ECSR (Environmental Corporate Social Responsibility), also referred to as Environmental Corporate Responsibility (ECR).

It can be examined from two perspectives:

- primarily as a result of the development of the concept of Corporate Social Responsibility (CSR) along with the concept of sustainable development as pro-environmental assumptions are increasingly introduced to the CSR concept;
- on the other hand, it is worth noting that the creation of the ECSR concept is clearly supported by the practical implementation of the idea of sustainable development at the levels of the economic ecosystem and companies themselves.

ECSR will be used more in sectors where environmental factors play a significant role in terms of the company's impact on the natural environment. However, it seems reasonable to present the view that environmental criteria, especially in the context of corporate social responsibility (CSR), often have a cross-sectoral dimension.

ECSR can be treated as a strategic concept for building company value based on environmental criteria. ECSR assumptions can be used in the construction of a business, as well as an eco-business model, which is stimulated by environmental criteria. Such a model is an attempt to shape a combination of effective value drivers [56], (p. 27). The value built on environmental criteria that are a value driver results in increased company's financial results. A company as an entity operating in a broad social and economic context, should also not contribute to generating costs that will be shifted to others. This also applies to environmental issues [57].

According to S. Sharma and H. Vredenburg, two key business capabilities can be identified, using environmental criteria to increase the financial result:

- the ability to constantly learn,
- the ability for continuous innovation [58].

Abilities shape inter-organizational relationships in the area of:

- the flow of knowledge, including environmental knowledge based on environmental competencies developed,
- the diffusion of environmental innovation based on the redundancy of environmental resources and competencies,

- the development of relational capital in the context of bilateral flow of value between stakeholders and the company.

In this way, a new, dynamic platform for creating corporate strategies is created in the business space, where a coherent combination of three components, namely environmental criteria, company value and corporate social responsibility determines the directions of the company's development in the network of market links. The ECSR-based strategy can be a source of building a competitive advantage based on unique and difficult-to-follow corporate competencies that give the basis for creating special value for customers and other stakeholders.

ECSR provides [59]:

- The source of business risk reduction (improvement of creditworthiness, improvement of business credibility, reduction of the process risk of the company's strategic resources);
- The source of creating environmental innovation to achieve long-term company development and growth and its environmental safety.

ECSR develops activities related to a pursuit of the balance of business needs between shareholders and stakeholders, where the dialogue platform is related to:

- Treating ecology as a key success factor,
- Treating ecology as a key success factor,
- The development of products in terms of their environmental performance [59].

Exhibiting the place and role of the environmental factor in corporate strategy leads to the concept in which an environmental factor is a basis for building the value of companies and creating a new type of a business model. This model takes into account:

- The internal assumptions of running a business with regard to environmental criteria: they include the greening of business processes and products,
- The external assumptions of running a business with regard to environmental criteria: environmental criteria are treated as a key factor of success, also environmental sector conditions are taken into account,
- Assumptions regarding the activity aimed at meeting internal stakeholders' needs,
- Assumptions regarding the activity aimed at meeting internal stakeholders' needs,
- Assumptions regarding the creation of internal centers of environmental corporate social responsibility as centers defining the strategic trajectory as a source of measurement and monitoring the strategy based on environmental criteria.

The fulfillment of environmental criteria can be a source of success. Key success factors are criteria that determine competitiveness in the sector. They are used to analyze the resources and skills of every company operating in the sector. Using key success factors, we can examine the strengths and weaknesses of the company and its development opportunities, as well as assess companies that are in a given sector or constitute a strategic group [60]. Environmental criteria as a key success factor should refer to the organization as a whole, as well as to processes taking place in the organization that create a value chain for stakeholders. This means that processes should also be managed in such a way that the environmental effect allows for improving the company's image in the market, customer relationships and other stakeholder groups and creates added value in the process itself.

It is worth noting that environmental criteria as value drivers are a platform of connections linking the CSR concept with the ECSR concept.

In the strategic perspective, it should be noted that environmental criteria:

- form the basis for company development,
- are a source of competitive advantage,

- are a platform for implementing the company's growth strategy,
- are a distinguishing feature of the company in the market,
- can be a basis for building company value,
- play an important role in social dialogue,
- provide a balance between shareholders and other stakeholders,
- are treated as a comparative criterion in the process of assessing company competitiveness [61].

Environmental criteria are multidimensional. They are a link between internal vertical and horizontal links in the organization and become the basis for building an effective business model, which may contribute to increased company value based on social assumptions, but also environmental business responsibility, the assumptions of which may be as follows:

1. Building a sustainable business model as a platform for dialogue between stakeholders.
2. Redefining business value so that it includes the analysis of stakeholders' needs towards building the sustainable value of an environmentally responsible organization. Eight areas for building sustainable value can be distinguished [62]:

    1. analyzing the current situation,
    2. anticipating future expectations,
    3. setting goals,
    4. developing value-building initiatives,
    5. developing business analysis,
    6. creating value,
    7. confirming results and drawing conclusions,
    8. developing skills of building sustainable value.

3. Setting sustainable value-related goals based on Sustainability Business principles [63]:

    1. Positive impact of the company.
    2. Positively perceived brand and reputation.
    3. Environmental processes in line with the environmental effect planned.
    4. Achieving acceptable financial results.
    5. Multidimensional measurements.
    6. Implementing an effective competitive strategy.
    7. Clearly answering the question: Can a responsible company function better or can a well-functioning company be more responsible?
    8. Testing effective business scenarios.
    9. Work and growth.
    10. Searching for and closing gaps in the area of sustainable company development based on ratio analyses.

4. Redefining the role of stakeholders and their relationship with business by determining the impact of a company's activities on the value for stakeholders and the impact of stakeholders on the value for shareholders [64].

To this end, it is necessary to deal with the creation of a map of stakeholder relationships, mapping stakeholders' agreements, identifying stakeholders' expectations, determining the type of stakeholder power, and monitoring stakeholders, as well as developing a matrix of priorities.

Therefore, the ECSR concept is related to the following assumptions:

- ECSR is a concept of increasing company value through the dynamics of using environmental criteria to meet the needs of shareholders and other stakeholders.

- ECSR is a platform for building an effective business model based on environmental criteria.
- ECSR is the source of creating environmental innovation to achieve long-term company development and growth.
- ECSR creates activities related to a pursuit of the balance of business needs between shareholders and stakeholders, where the dialogue platform is related to treating ecology as a key success factor, examining critical processes in relation to their greening and product development in terms of their environmental performance.
- ECSR is a source of the effective use of a combination of tangible resources and intangible factors of company operation in the context of environmental criteria adopted (pro-ecological raw materials, environmentally friendly machines, equipment and other material resources of the company, environmental knowledge, and environmental competences).
- ECSR is a link between the internal and external environments (a comparison of macro-environment factors, e.g., regulatory, legal and political factors in relation to the interior of the company affecting the natural environment).
- ECSR is a guarantee of effective reporting of standards of conduct for stakeholders in relation to the internal functioning of the company (human and nature rights, work and technology, work environment and the natural environment, health protection and environmental protection, etc.).
- ECSR is a platform for the effective use of the company intellectual, relational, organizational, innovative and human capital in terms of increasing social capital among all stakeholders.
- ECSR is a source of business risk reduction (improvement of creditworthiness, business credibility, reduction of process risk of company strategic resources) [59].

It is necessary to ensure appropriate environmental competencies for the development of this trend of business responsibility. Competencies are treated as the ability to coordinate resources to achieve organizational goals. Key competencies that are at the top of the hierarchy of resources are the unique combination of knowledge, technology and skills. Environmental competencies built based on environmental knowledge can be seen as environmental quality and innovativeness. They can be the basis for environmental strategies of companies. Environmental competencies should be examined in terms of cooperation with the environment and the implementation of corporate social responsibility [65].

Effective company strategic management in a hybrid approach determines the new areas of mutual relationships also in the subjective approach. These new areas of relationships are focused on the principles of management taking into account the needs and expectations of the stakeholders of social and public organizations. In such a cognitive perspective, it is important to understand the place and role of stakeholders in shaping effective business models and corporate strategies focused on public, social and economic goals.

Table 5 shows the typology of stakeholders in terms of the business model of the individual organization.

**Table 5.** Typology of stakeholders in terms of the business model of the individual organization.

| No. | Criteria | Typology of Stakeholders |
|---|---|---|
| 1 | Focus on the social and public sector | Social stakeholders, Public stakeholders<br>Non-stakeholders |
| 2 | Location to the organization | Insiders<br>Outsiders |
| 3 | Role in strategic management | Primary stakeholders<br>Secondary stakeholders<br>Key stakeholders |
| 4 | Criterion of the concluded cooperation agreements | Consubstantial stakeholders<br>Contractual stakeholders<br>Contextual stakeholders |
| 5 | Market orientation | Non-market stakeholders<br>Market stakeholders |

**Table 5.** *Cont.*

| No. | Criteria | Typology of Stakeholders |
|---|---|---|
| 6 | Degree of relationship dynamics | Silent stakeholders<br>Real stakeholders |
| 7 | The degree of influence | Global stakeholders<br>Regional stakeholders<br>Local stakeholders |
| 8 | The degree of mutual relationship | Sectoral stakeholders<br>Universal stakeholders<br>Specific stakeholders |
| 9 | The degree of mutual relationship | Primary stakeholder<br>Secondary stakeholders<br>Third-degree stakeholders |
| 10 | The degree of influence strength | Majority stakeholders<br>Minority stakeholders |
| 11 | The degree of influence strength | Dominant stakeholders<br>Dangerous stakeholders<br>Dormant stakeholders<br>Decisive stakeholders<br>Demanding stakeholders<br>Flexible stakeholders |
| 12 | The degree of impact | Dependent stakeholders |
| 13 | The degree of impact | Pressure groups |
| 14 | The degree of mutual relationship | Stakewatches |
| 15 | The degree of mutual relationship | Stakekeepers |
| 16 | The degree of mutual relationship | Multi-stakeholders networks |
| 17 | Type of influence | Business units |
| 18 | Type of influence | Civil society |
| 29 | Type of influence | Governmental institutions |
| 29 | Type of influence | Public-policy network |

Source: Reference [66], (p.21–22).

## 10. The Hybrid Approach and the Sustainability Concept

The concept of hybridization has been analyzed in recent years in a wide context. In particular, hybridization is associated with a combination of management practices from the field of business management and public management. Public management is subject to dynamic changes aimed at improving the efficiency of public funds management and shaping social values. Hybridization can be an effective way of shaping social business models. Sustainable business models as a concept develop dynamically not only in the sense of the balancing of ecological, ethical and economic aspects. It also serves to sustain of business in the long term. It is the nucleus for building cooperation between various groups of stakeholders in a network environment and creating conditions for the effective receipt of social economic activity. Therefore, it is essential to use the concept of sustainability to fully implement the principles of a hybrid approach in management. There are currently three approaches to sustainability:

1. The classic approach broadly described in literature and well-recognized based on the Triple Bottom Line [67], (p.18–22). Then we can talk about a business model based on the Triple Bottom Line. These may be mature companies based on stakeholders' analysis and CSR or young companies working on ecological aspects, for example in the field of renewable energy sources. Then some people call them business models as sustainable business models.
2. The second approach is based on assumptions, for example Schaltegger says: "'The value proposition must provide both ecological or social and economic value through offering products and services'—business model for sustainability" [68–75].
3. The third approach that matters is that new business ventures are based on technological innovations that break the classical economic rules (profit is not the most important), for example

business models based on sharing economy (Uber, Didi Kuaidi, Lyft-Market of car journeys (for example, in China—Alibaba—Sale of used goods) because the profit in these companies is not the most important and they work with network effect, so it is important to ensure their sustainability as the continuity of business (the requirements of law rules and social needs, ecological rules, labor rules and others are also very important, as well as the stability and sustainability of these business models).

Focus on maintaining the system's functioning should, above all, take into account the needs of public and social organization stakeholders [76], (p. 161).

## 11. The Adopted Methodology of Scientific Research into the Strategic Hybrids of Water Supply Companies

Research into the dynamics of organizational and management processes should, by their nature, be longitudinal. In such research, the search for mechanisms of change rather than the determination of the stages of development becomes more important to understand the process [10], (p. 47).

It is very difficult to infer about the organization's activity from the studies of various organizations. It is more cognitively valuable to look at a few of them in action, how their parts are interdependent from the perspective of their initial and final state. In this way, we can distinguish between volatile and static elements, and such knowledge is essential for every researcher. Theoreticians realize that, which is expressed in at least one level of theorizing, namely attempts to present their theories in dynamic terms, but unfortunately often with the tendency to test only the cross-sectional data, on the basis of which theories are generated and tested [10]. According to J.R. Kimberly [11] longitudinal scientific research consists of such techniques, methodologies and activities that enable the observation, description and / or classification of organizational phenomena in such a way that processes can be identified and empirically documented. In principle, longitudinal research examines processes in many periods. Since the period between data collection activities is determined by the researcher, the number of data collection periods is different according to different formulas. Longitudinal research is designed by changing six parameters: Research duration, time between data collection activities, number of data collection periods, a data collection method, research objectives and subject of analysis [77]. C. Janson suggests two broad classes of longitudinal research: Correlative longitudinal research (including studies of both normal representative populations and non-representative populations) and experimental research [78]. Longitudinal research is associated with the implementation of repetitive measurements of the same population of individuals for a long time, i.e., in a time that allows the detection of changes. Longitudinal research is often called a prospective study. An important feature of longitudinal research is that an individual makes measurement several times over time. Longitudinal research contrast with cross-sectional research where the measurement for each individual is single, i.e., at a single point in time, although the same research questions can be posed in cross-sectional and longitudinal research, but the main advantage of the former is its ability to separate different types of changes. The analysis of longitudinal data in statistical modeling is distinguished by special features, which include [79]:

1. The ability to control the heterogeneity for individuals;
2. More information about data: Greater variability, less collinearity, more degrees of freedom and greater efficiency;
3. The better ability to study the dynamics of the phenomenon, through the use of cross-sectional research (percentage of the unemployed) and longitudinal research (the division of periods of unemployment);
4. The ability to identify and measure outcomes that are not detectable in cross-sectional research or in a traditional time-series analysis;
5. The ability to build and test more complex behavior (behavioral) models than from cross-sectional or time series data;

6. Avoiding biased aggregation due to the fact that the majority of longitudinal data are set at the micro data level, but also different data structures (hierarchical and non-hierarchical) are included;
7. The ability to control unobserved variables and the possibility of examining the causality mechanism.

It was in longitudinal research in the context of business models that the cause and effect relationships in the conceptualization and operationalization of the observed business models were analyzed. The cause and effect of connections are important mainly in relation to the attributes (components) of business models of the companies surveyed. Events important for the development of change processes and development of the company's business models and their attributes were identified and examined. They allowed for understanding and explaining the processes of changes to the configuration of the business model.

The developed set of principles is applied to the business model assessment with the use of longitudinal research [80] characterized by:

1. A long observation of the business model allowing the evaluation of its revolution or evolution;
2. The frequency of research may enable the adjustment of the business model at the individual stages of the company's operation;
3. The researcher's observation that determines the emergence of the business model scalability capability;
4. Observation positively influencing the selection of business model attributes suitable to the needs;
5. Scientific research of a proactive nature, informing not only about the past, but also about the future development of the business model.

Therefore, according to the above assumptions, research into the strategic hybrids of water supply companies is based on longitudinal research.

### *11.1. Research Results*

The result of research is to learn the essence of strategic hybrids as modern management instruments based on the analysis of data from several water supply companies operating in Silesia, i.e., their strategic solutions, presented in the comparative tables. These hybrids are presented in the form of business model canvases, strategy maps, process maps and project matrices. Strategic recommendations for the companies surveyed and companies operating under comparable conditions can also be included in the research results.

### *11.2. Research Results and Their Discussion*

The research result is the identification of the strategic hybrids of several water supply companies based in Silesia with diversified capital, resource and location structure.

The discussion is in part based on the authors' own observations regarding the use of business models in management practice. Therefore, they can be used as a reference point for management mechanisms used by managers in the design and operationalization of the sustainable business models of companies.

### *11.3. Research Limitations*

The features of the research gap in terms of consistency between the business model, strategy, business processes and strategic projects consist mainly of the following:

1. There is very little research in the world into the consistency of business models, strategies, business processes and strategic projects, hence the subject is relatively poorly recognized. As a result, there is little comparable research that can be used as a benchmark for the results achieved in the research presented.
2. Research into the consistency between the business model, strategy, business processes and strategic projects is of a particularly complex character, which creates specific limitations.

### *11.4. Consequences for Practice*

Attention should be particularly paid to the conceptualization and operationalization of the strategic hybrids of water supply companies as solutions that are a model to follow or adapt to the needs of companies.

### *11.5. Consequences for Society*

The use of the strategic hybrid opens a new dimension of perception of water supply companies as close to the society, where social innovations are focused on management mechanisms that are a source of exchange of social values among the stakeholders of water supply organizations. This approach contributes to the development of intellectual and social capital based on the management solutions for water supply companies.

### *11.6. Originality/Value of Research*

Too little research into the strategic management instruments of water supply companies indicates the need for original studies on the strategic hybrids of water supply companies. The value of the study is included in a unique approach to research into the relationship between the organization's strategy, its business model, business processes and strategic projects.

## 12. The Operationalization of the Strategic Hybrid of Water Supply Companies in light of Scientific Research Conducted

The operationalization consists of the following steps:

1. Defining the strategic context of a water supply company
2. Defining its mission and vision
3. Defining the business model of a water supply company and developing its graphic form
4. Defining the strategy and operationalizing it as a strategy map
5. Defining processes and presenting them as a map of processes
6. Defining strategic projects in the form of a project portfolio
7. Defining the mechanisms of water supply company risk management
8. Defining interrelationships between the components of the strategic hybrid presented.

Therefore, the analysis of selected missions of these companies located in Silesia was conducted first (Table 6).

**Table 6.** List of selected missions of water supply companies in Silesia.

| **Missions of Water Supply Companies** |
| --- |
| **Mission** |
| "Our mission is to provide the community with high quality water and sewage treatment and to provide these services in a reliable and effective manner, respecting the natural environment." |
| By providing professional services in the field of water and sewage management, we increase the value of our company taking into account the voices of its stakeholders. We focus on partnership in relationships with inhabitants, care for the natural environment and a high level of management culture. |
| The mission of Przedsiębiorstwo Wodociągów i Kanalizacji is to guarantee the reliable operation of the water supply system and the sewage disposal and treatment system, satisfying the requirements of our clients and ensuring the safety and protection of the natural environment. |
| The Company's mission is a municipal task, that is water supply and sewage disposal, and the smooth and reliable operation of the Company is necessary for the comfort of life for the inhabitants of ten municipalities. It is therefore imperative to secure these tasks in a special way, and leave them in the local government sector. |

**Table 6.** *Cont.*

| Missions of Water Supply Companies |
| --- |
| **Mission** |
| We give people water, and water is life. The mission is to ensure, together with our partners, the security of the water supply system of the Upper Silesia, Zagłębie, Podbeskidzie and West Małopolska regions. Drinking water intake, treatment and supply are and will be our main activity.<br>By completing the mission, we participate in the implementation of the objectives of the Province of Silesia development strategy for the years 2000–2020 for the benefit of the region and its inhabitants. |
| We exist for inhabitants. We are a company that was established to serve you and meet your needs. Therefore, every day we take care of effective water supply in the city and we make every effort to ensure clean water from Bytom taps. Taking care of the comfort of inhabitants' lives and the natural environment, Bytomskie Przedsiębiorstwo Komunalne Sp. z o. o. also deals with sewage disposal and treatment. And all this is thanks to the work of specialists employed in BPK and the use of the latest technology. This allows our business to achieve high standards.<br>Plans for the future:<br>we are a company that primarily thinks about the Customer. We want to be close to inhabitants and respond to all their needs and problems. As a result, the Customer Service Office was established. We want our company to be always open to Bytom inhabitants, that's why we organize information and promotion campaigns,<br>we will continue to professionally supply clean and safe water for Bytom inhabitants,<br>we will continue to provide professional sewage collection and treatment using modern technologies,<br>we will continue to invest and modernize the water and sewage network (we have implemented the EU project titled "Improvement of water and sewage management in the Bytom municipality" co-financed from the Cohesion Fund),<br>we will launch educational and ecological campaigns in the coming months. They will allow us to develop ecological awareness and care for the natural environment in the local community—both among children and adolescents as well as adults.<br>Our promotional and information campaigns will allow us to build a system of modern communication with the local community and the environment.<br>What are we guided by?<br>professionalism and ethics in action,<br>care for the high quality of services we provide,<br>a professional and kind approach to customers, because we are for them and establishing positive relationships with them,<br>innovation and modernity in the implementation of investments,<br>constant improvement in the quality of our company's operations,<br>taking care of the public good and satisfying the needs of city inhabitants in terms of supplying clean water, sewage disposal and treatment.<br>All this allows us to build a modern company that serves Bytom inhabitants. 100% shares of Bytomskie Przedsiębiorstwo Komunalne Sp. z o. o. belong to Bytom municipality. |
| The mission of Przedsiębiorstwo Wodociągów i Kanalizacji Sp. z o.o. is to supply good quality water in the adequate amount and to dispose and treat sewage in a harmless and environmentally-friendly way. |
| "The measure of the quality of our services is customer satisfaction" is the motto that accompanies us every day. |
| The company's mission is to meet the collective needs of Pszczyna city and municipality inhabitants in the field of water supply, collection and treatment of sewage and other municipal services. |

Source: Own study.

In order to demonstrate interpretation differences concerning the appearance of the strategic goals of economic and social strategic goals outlined in the strategies of water supply companies in the Province of Silesia, key strategic goals have been defined in the table (Table 7).

**Table 7.** Summary of strategic economic and social goals presented in terms of the strategic hybrid.

| No. | Strategic Economic Goals | Strategic Social Goals |
| --- | --- | --- |
| 1 | To ensure the dynamic development of the Company by improving the existing fixed assets and their expansion, related with organizing water and sewage management | Care of the interests of inhabitants, expressed in determining the cost at the necessary minimum level |
| 2 | To increase the efficiency of tangible, human and financial resources | Shaping the Company's image as a company that is well-known and valued by customers for the reliability and efficiency of the implementation of tasks in the public utility sphere |

**Table 7.** *Cont.*

| No. | Strategic Economic Goals | Strategic Social Goals |
|---|---|---|
| 3 | To maintain financial sustainability | To ensure job satisfaction for company employees through an appropriate incentive, remuneration and management system |
| 4 | To manage business assets effectively | To build social trust |
| 5 | To maintain long-term financial stability | Financial and organizational support for valuable social initiatives |
| 6 | To raise finance (EU funds, loans, leasing, co-funding by municipalities) | To promote a healthy lifestyle |
| 7 | To optimize operating costs (controlling, strategy implementation and evaluation). | To build a system of values inside and outside the organization |
| 8 | Professional systems of service settlement | Support for the so-called vulnerable customers |
| 9 | To provide sources of financing for the implementation of the strategy | To protect the interests of the recipients of services |
| 10 | To achieve a cost leadership position | Professional service and facilities in handling various matters |
| 11 | To maintain the water sales volume | To share knowledge and skills |
| 12 | Cost allocation, price policy | To build transparency and corporate governance principles—generally available information and regulations |
| 13 | - | To provide an appropriate offer that guarantees the security of water supply to the inhabitants in the region |
| 14 | - | Care for the quality of services |
| 15 | - | To develop social and environmental education |

Source: Own study.

With reference to the above-mentioned goals it can be concluded that water supply companies in the Province of Silesia pursue social and economic goals. On the one hand, these goals complement each other, but in some cases they are mutually exclusive. On the one hand, when analyzing economic goals, the aim is to achieve a cost leadership position, while as regards social goals, to ensure job satisfaction for company employees through an appropriate incentive, remuneration and management system or financial and organizational support for valuable social initiatives. Therefore, it is crucial to building a coherent strategy based on the correlated form of goals described in the form of a strategic hybrid.

The next step is to present the business model of a water supply company. The model includes four key components, which may include stakeholders, value proposition for the customer and satisfying the needs of inhabitants, income generation logic, the organization of internal suppliers correlated with strategy, position in the value network and value chain configuration (Figure 7).

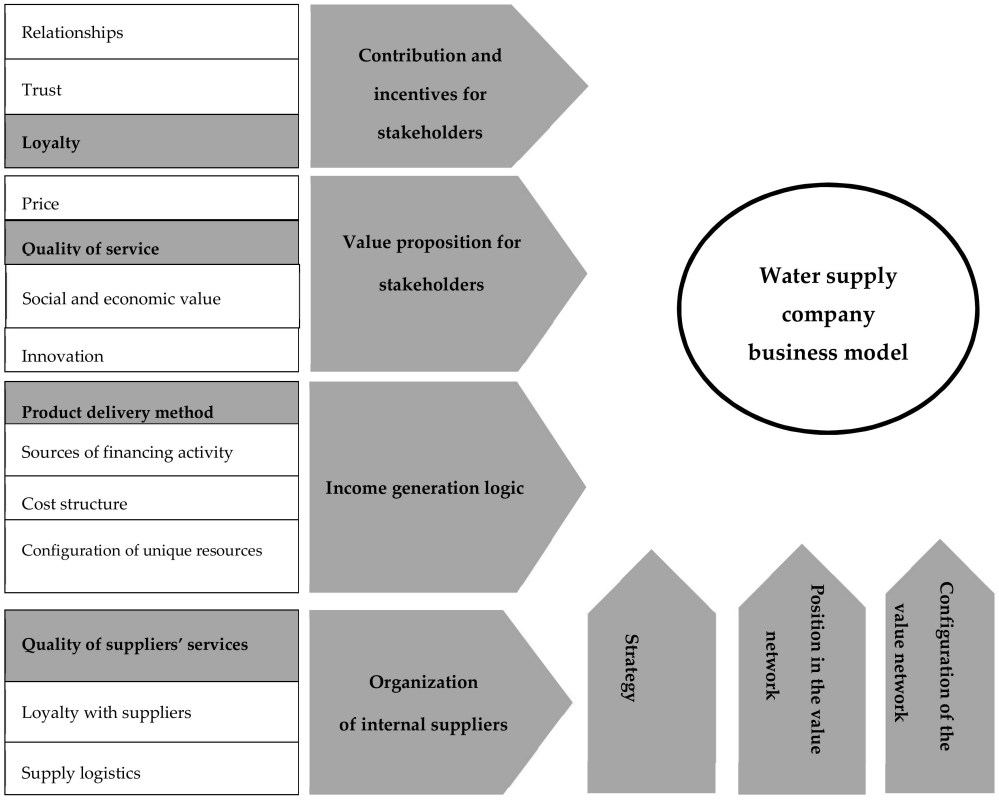


**Figure 7.** The shape of the business model of a water supply company. Source: Own study.

The two stages allowed for defining the components of the business model in relation to the description and evaluation criteria together with the determination of the significance of a component for a water supply company (Table 8).

**Table 8.** Components of the business model of a water supply company.

| Business Model Component Criteria | Description and Evaluation Criteria | Significance of a Component for a Water Supply Company |
|---|---|---|
| Stakeholder | A stakeholder is the main pressure center on the basis of which the structure of building a business model is created. He is the recipient of products or services. | In the stakeholder component, the most important element is relationships. All strategic activities should aim to ensure that stakeholders' expectations are met. The second factor that defines this component is trust that connects stakeholders with the organization. |
| Relationships | Bonds that connect a loyal stakeholder with the brand. | |
| Public and business trust | Trust is the readiness to be sensitive to the actions of the other party based on the assessment of its credibility in a situation of interdependence and risk. | |
| Loyalty | Cooperation with the stakeholder is based on the pressure of the company to maintain multiple transactions and solve its problems. | |

**Table 8.** *Cont.*

| Business Model Component Criteria | Description and Evaluation Criteria | Significance of a Component for a Water Supply Company |
|---|---|---|
| Value proposition for stakeholders | Value proposition for stakeholders defines elements, such as the material benefits of the product, the emotional benefits of the product, a transaction cycle, and relationships with final consumers | In the value proposition for stakeholders' component, the most important component is the quality of services (resulting mainly from the quality of infrastructure and stakeholder service at the point of service). Another factor is brand—a water supply company should be characterized by a brand (trademark) recognized by its stakeholders. Innovation in the product sphere is a no less important component |
| Price | The amount of money that stakeholders must pay for a product or service. | |
| Quality | Quality is a feature or a set of features that differentiate a given item from others, or all features of a given item that are important due to its internal structure and because of its relationships, impact and relationships with the environment. | |
| Brand | Brand is a name, date, symbol or graphic design or a combination thereof, the purpose of which is to identify the goods or services of one seller or group of sellers and to distinguish goods or services offered by competitors. | |
| Innovation | Innovation is the implementation of a new or significantly improved product (product or service) or a process, a new marketing method or a new organizational method in business practice, workplace organization or relationships with the environment. It has been assumed that the minimum requirement for innovation is that a product, process, marketing method or organizational method should be new (or significantly improved) for the Company. It includes products, processes and methods that the Company developed first, and those that have been adopted from other entities. | |
| Income generation logic | Income generation logic is shaping of resources and activities that are used to generate financial surpluses. | In the income generation logic component, the most important element in the Company is the method of product and service delivery and the configuration of unique resources. Other elements include the sources of financing the activity (including external funds, such as subsidies) and cost structure. |
| Product delivery method | How are products and services delivered? | |
| Sources of financing activity | How is operational activity financed? | |
| Cost structure | What is the cost structure? | |
| Configuration of unique resources | What resources must be available to provide a product or service? | |
| Organization of internal suppliers | A cooperation method with suppliers defining the mutual principles of action and the course of the relationship. | For the organization of internal suppliers' component, the most important factor is loyalty with suppliers and supply logistics. |
| Quality of suppliers' services | The degree to which expectations as to the delivery method of the product or service by the supplier are met. | |
| Loyalty with suppliers. | Cooperation with suppliers based on a continuous and lasting relationship. | |
| Supply logistics | Value proposition goes to customers via communication, distribution and sales channels. | |
| Type of implemented strategy | The strategy of qualitative leadership is also called the strategy of differentiation; it is based on the attractiveness of the product or service offered, that is making the offer available to the customer, who will notice and appreciate its unique character. | |
| Position in the value network | Position in the value network is the location of the company in relationship to: Customers, suppliers, competitors and other stakeholders. A water supply company has a dominant position resulting from the conditions of the water supply sector. All activities undertaken by the Company should aim at keeping the dominant position in the market. | |
| Configuration of the value chain | A water supply company aims to control and capture value in the area of the entire chain—market integration in the local area. The logic of the Integrator model is double—controlling and minimizing assumptions, which makes it possible to understand the difference in the priorities of this business model in planned and market economies. A company intends to control and capture the added value created in the areas of the entire water supply business chain, from supply, through service provision, to marketing. | |

Source: Own study.

The next step in the construction and operationalization of the strategic hybrid of water supply companies was the development of a strategy map for a water supply company, determined by four key perspectives: Learning and development, internal processes, stakeholders and finances together with defining the maps of strategic groups in relation to individual perspectives.

These perspectives are expressed through the cause and effect relationships between various objectives embedded in these perspectives. Such logic allows for the determination of strategic scenarios that move from the perspective of learning and development to the financial perspective.

At the same time, it enables the cascading of strategic goals to the lower levels of management along with defining specific objectives, strategic initiatives and the measures of effectiveness and efficiency of the objectives set. Then a specific measurement system is created that includes financial and non-financial measures.

At the same time, processes necessary to implement the strategic and tactical and operational assumptions of the water supply company were taken into account and their mutual relationships in the process map were presented. The processes presented in this map were classified as management, core and supporting processes. Cause and effect relationships also occur between the processes taking place as part of the integrated value chain. The effect of this chain is the implementation of the main process, which is the production and distribution of water (Figures 8–13).

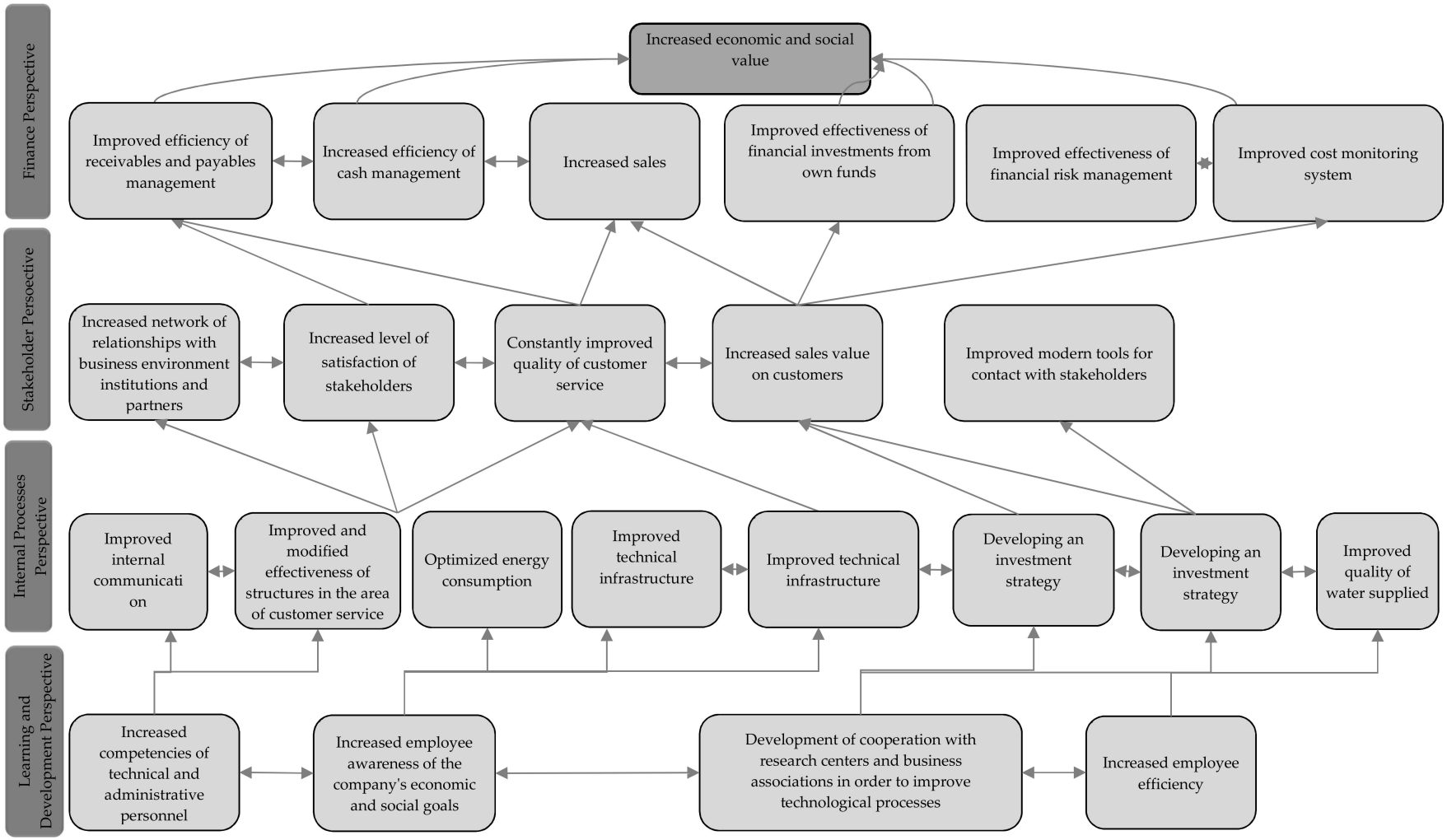


**Figure 8.** Strategy map. Source: Own study.

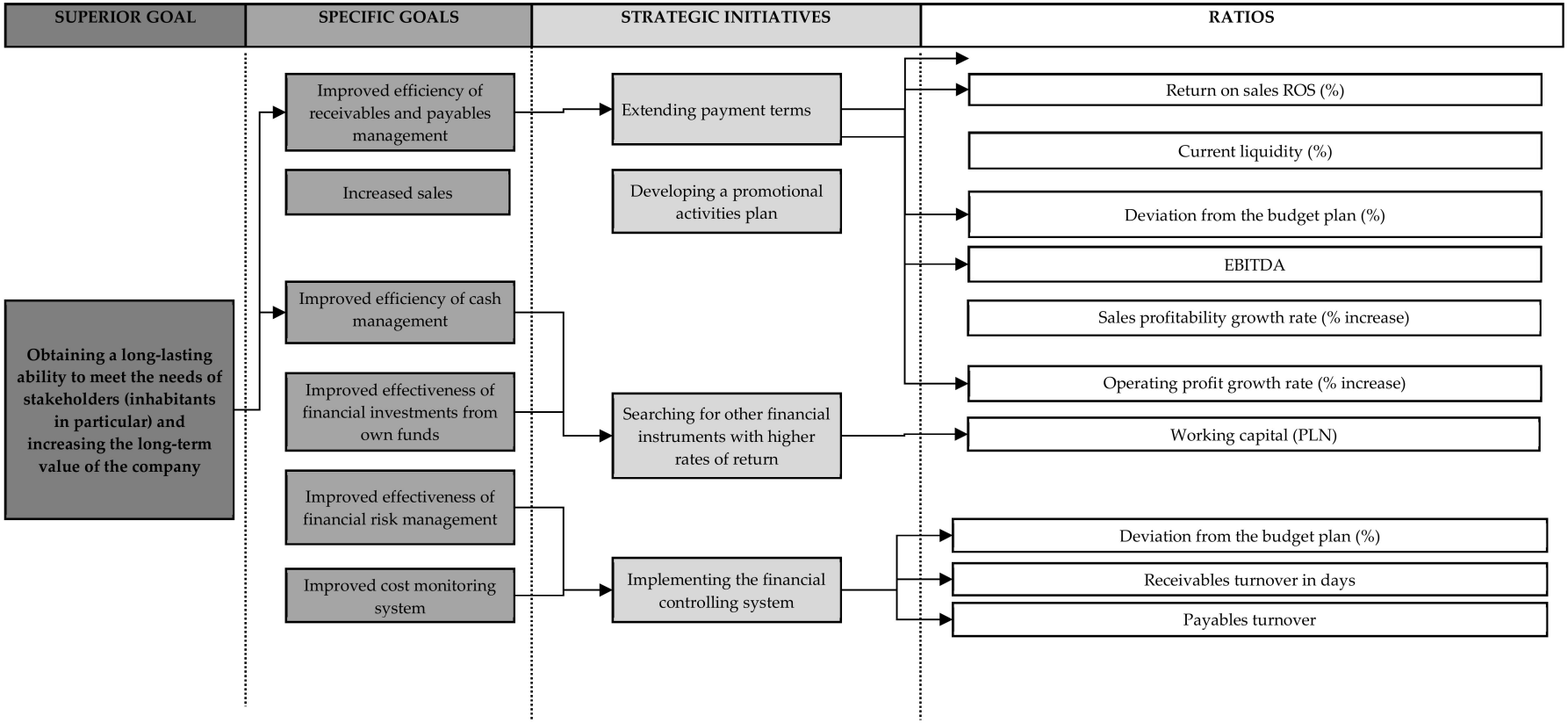


**Figure 9.** Map of strategic goals—a finance perspective. Source: Own study.

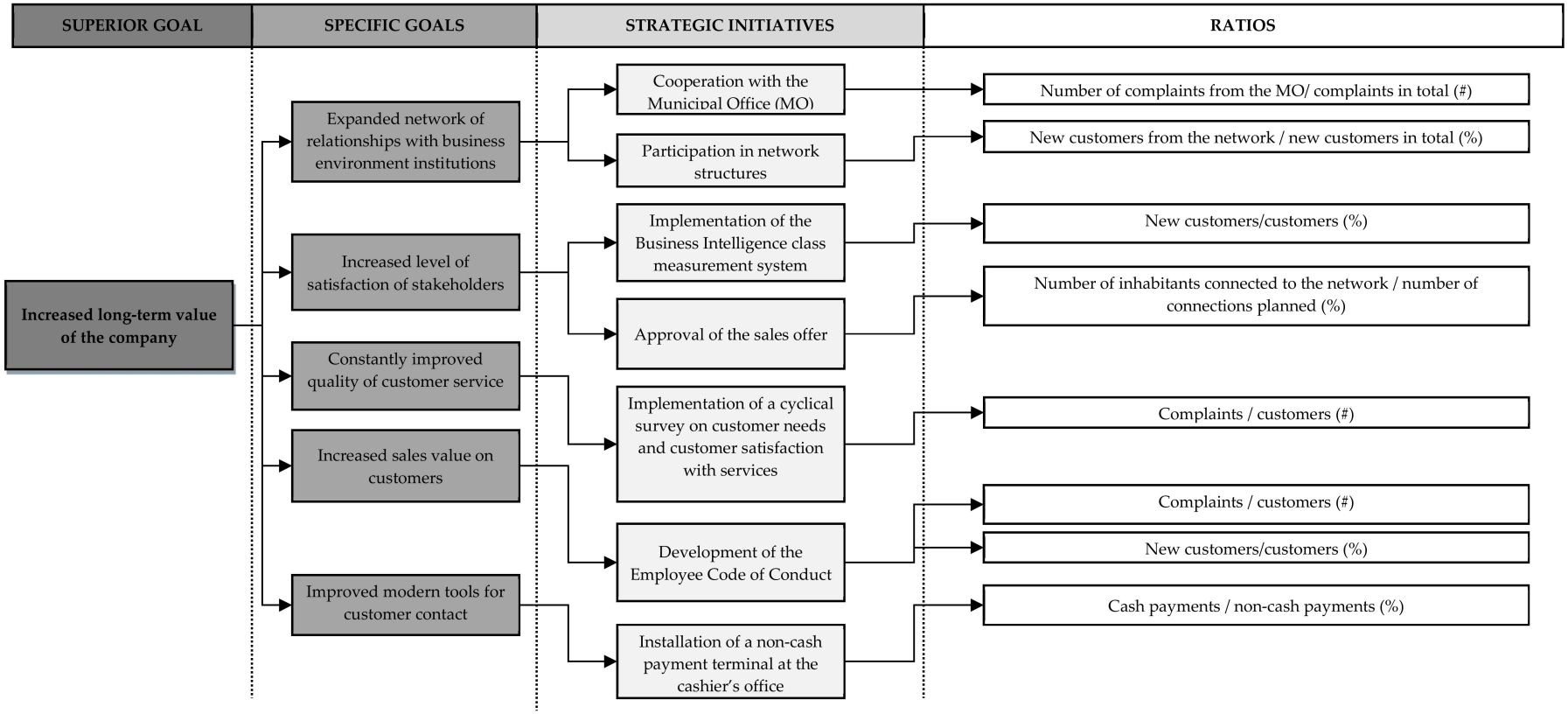


**Figure 10.** Map of strategic goals—a stakeholder perspective. Source: Own study.

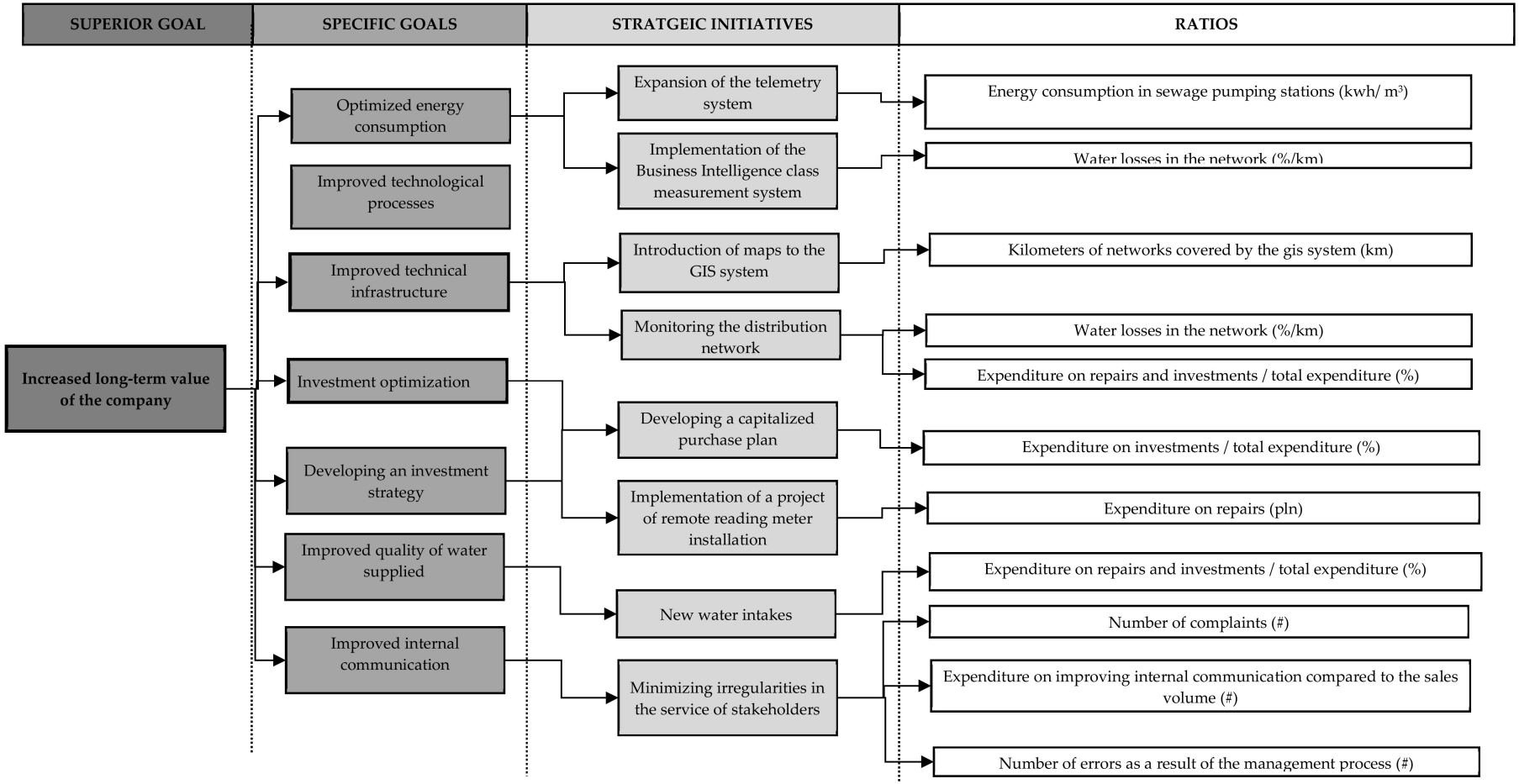


**Figure 11.** Map of strategic goals—the perspective of internal processes. Source: Own study.

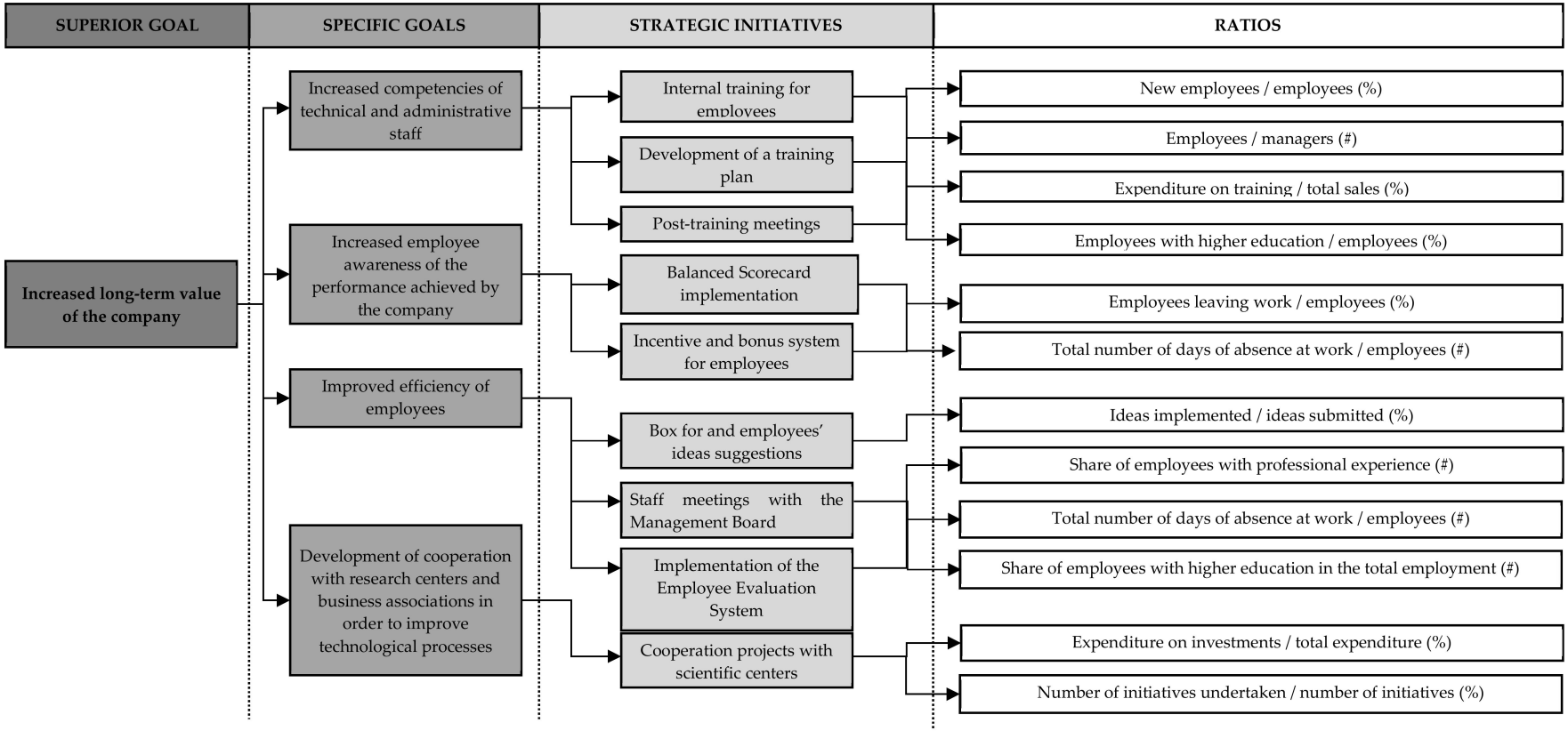


**Figure 12.** Map of strategic goals—the perspective of learning and development. Source: Own study.

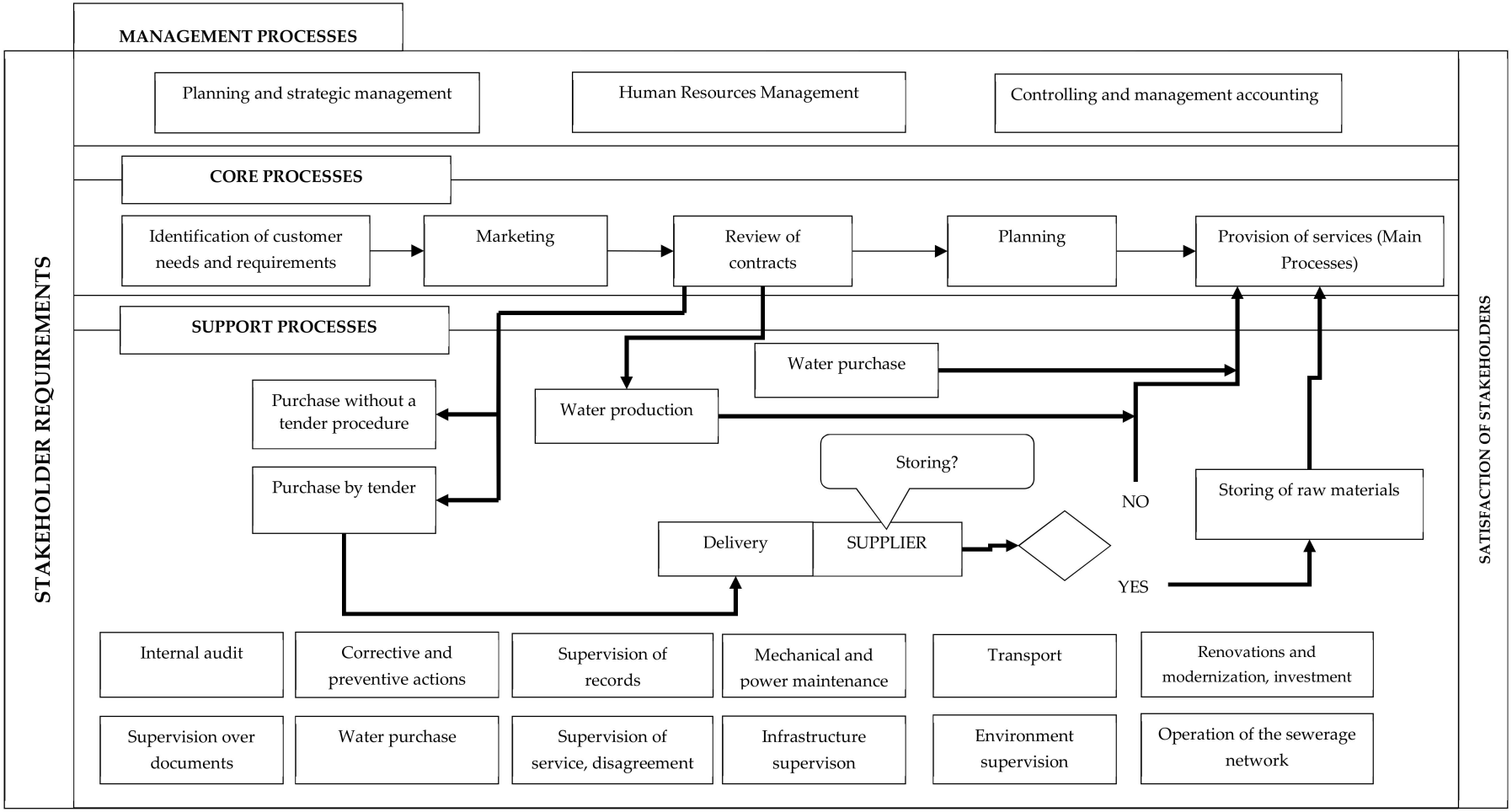


**Figure 13.** Map of the processes of a water supply company. Source: Own study.

Subsequently, the concept of project management for a water supply company was presented.

As is widely known, the essence of project management is the application of knowledge, skills, tools and techniques used in the implementation of the project to meet the required objectives and expectations of stakeholders. Therefore, the selection of strategic initiatives to be implemented should be consistent with the Mission and Vision of a water supply company. As project management is a sequential decision-making process, it was assumed that each project implemented in a water supply company should take into account the assumptions of the project management concept and the implementation of this project should be divided into stages:

1. Stage one—defining a project resulting from strategic initiatives set;
2. Stage two—project planning—before the implementation of activities defined, a project schedule is developed. It contains a work division structure and a need for resources during project implementation, including a project budget.
3. Stage three—project implementation—this is the time necessary to perform the activities defined and planned. During the implementation, activities are continuously monitored and coordinated.
4. Stage four—completion of the project—a stage aimed at determining whether the final outcome of the project implemented fulfills the requirements assumed in the project planning stage.

In the implementation of the concept of project management, it is important to define a project portfolio that includes a set of strategic projects. Four key portfolios were proposed for a water supply company: Quality Creation, Water Safety, Sustainable Development and Intellectual and Social Capital (Figure 14).

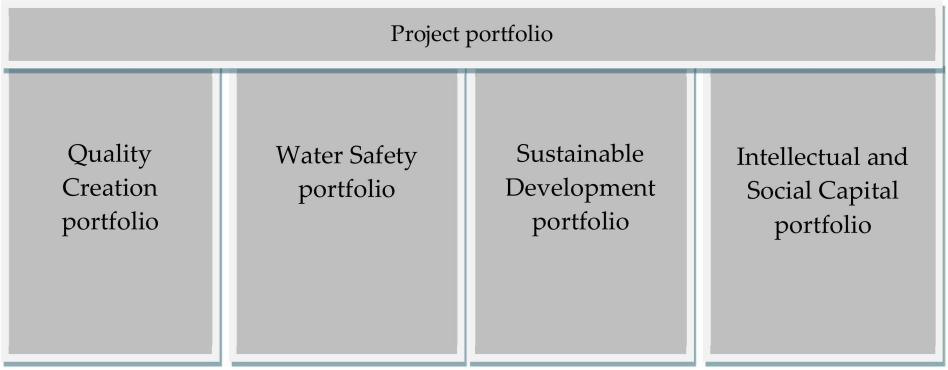


**Figure 14.** Project portfolio of a water supply company. Source: Own study.

Each project implemented in accordance with the Project Management concept should be described in the "Project Charter" of the implementation of the initiative developed for a water supply company. The project charter of initiative implementation is part of the Strategic Scorecard; it describes the course of the entire project implementation process (a project schedule). It contains data on the subject of the project and its description, the sources of project financing (a project sponsor) and necessary resources (project budget), a person responsible for the implementation of the initiative (a project manager) and the team involved in the project.

While building the strategic hybrid of a water supply company, reference was also made to the mechanisms of the conceptualization and operationalization of the risk management concept. The assumptions of risk management in a water supply company are based on a sustainable value chain that ensures an effective water supply system [81].

Recognizing the complexity and interdependence of water availability and use, the World Business Council for Sustainable Development has grouped water risks associated with economic activities into five categories that can be reduced by clearing and treating water. Production that includes [82]:

1. financial risk (capital restriction, higher loan interest rates and premium insurance),

2. operational risk (increased production costs and distortions),
3. product risk (loss of market share caused by the increased number of consumers, care and preferences of customers),
4. risk of reputation loss (potential community conflicts and loss of business license), and
5. regulatory risk (an opportunity for new fees, regulations, fines and even lawsuits if the company's activity is contrary to the public interest).

The assumptions of the risk management system in a water supply company are as follows:

1. The Management Board is responsible for the level of risk in the company.
2. Every decision in the company has financial consequences.
3. A company should have a risk management system that covers technical and financial risks.
4. Risk can be reduced, transferred to third parties or covered by insurance.
5. The risk strategy should be included in the responsibilities of senior employees.
6. It is necessary to determine boundary conditions for effective risk management
7. Each separated area of the organization should determine risk boundary conditions in its area.
8. The company's management board sets objectives and tasks in relation to risk taking into account previously recognized boundary conditions.

Taking into account the core activity of a water supply company, the safety of the water supply system is mainly exposed to risk. The functioning of the water supply system carries the risk related to the lack of water supply and its poor quality. Domestic and global regulations [83,84] and the democratization of public life require the adaptation and development of research methods related to the safety of this system. Therefore, appropriate risk control is of great importance.

It is important that security systems adopted are reliable and effective, which determines their security potential. The management of the safety of water supply systems should take into account contemporary trends that make this area develop in the following directions:

- the integration of the safety management of the water supply system with quality management systems in accordance with ISO 9000 standards and environmental management systems, in accordance with the ISO 14000 standard,
- improvement into safety management with the use of comprehensive quality management,
- paying attention to the IT security issues of a water supply company.

The risk management methodology in a water supply company is shown in Figure 15.

The research and own observations, as well as research conducted by the authors mentioned above, show that risk in a water supply company is also related to the occurrence of damage or failure. Damage is an adverse event that causes small-scale losses and occurs relatively frequently. The risk in this case is related to damage to the water supply network (distribution, home connections), pump units, water treatment equipment, as well as fittings in internal installations. The level of risk is estimated on the basis of empirical data with the use of indicators of damage intensity, repair intensity and financial losses due to unsupplied water and the maintenance costs of maintenance and repair teams by the water supply company. The risk reduction strategy consists mainly of reducing the unreliability of facilities. In turn, failures as adverse events causing losses on a medium scale are rare. They include major pipeline failures, power outages due to lightning discharges, and the incidental deterioration of the water quality in the source, requiring adjustments in the water treatment process. The level of risk is estimated based on relevant reliability indicators. Risk management in this case focuses on monitoring the functioning of the water supply system by means of qualitative and quantitative methods. In turn, major failures and disasters are adverse events that cause significant damage and occur very rarely. The frequency of their occurrence is estimated based on probabilistic models. They include global water contamination in the water supply network and problems with the quality and quantity of water that arise as a result of flood or long-term drought. Risk estimation is

prognostic on the basis of emergency scenarios. Risk management consists of analyzing the work of a multi-barrier system that protects consumers against poor water quality (monitoring water quality in a protective and warning station, the cross-section of water intake, the key areas of water treatment process, clean water, selected sites in the water supply network and selected recipients), and water supply for consumption from alternative sources.

A basis for an efficient risk response system is its proper identification, and then the development of decision-making scenarios for each risk, which consequently gives the opportunity to choose a strategy on how to deal with it. One of the major factors that determine the strength of the influence of a given factor is also cost analysis.

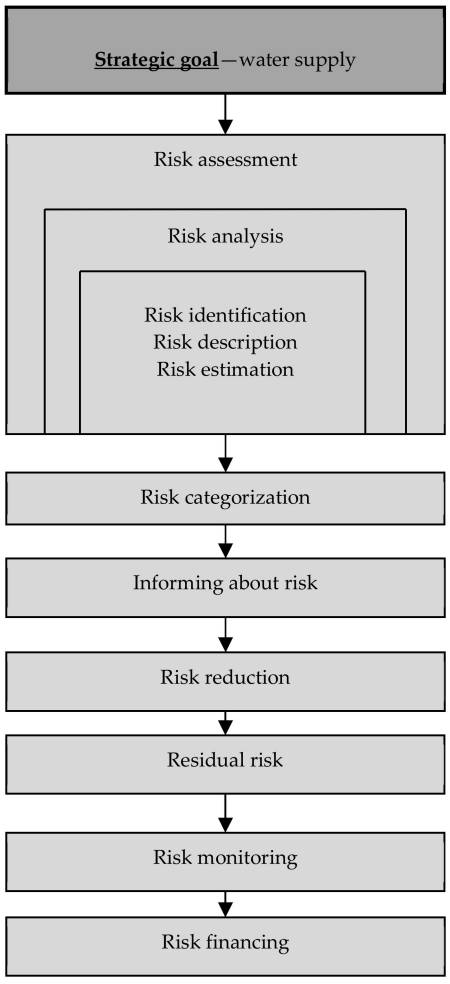


**Figure 15.** Risk management methodology in a water supply company. Source: Own study.

## 13. Conclusions

Modern management mechanisms in the contemporary world open new spaces for the development of management sciences. They are focused not only on the establishment of new organizational forms but also on hybrid solutions. The joint implementation of social and economic objectives is one of the forms of a hybrid approach. However, that is also not sufficient. It is necessary to look for refined, multi-criteria options of the functioning of companies. Undoubtedly, water supply companies are such companies. It is crucial for them to find management solutions that guarantee their high both economic and social performance. In this approach, it may be important to use a specific strategic hybrid for a hybrid company, such as a water supply company. The paper attempts to present such a strategic option., where the assumptions of the hybrid scorecard were also used as a tool that supports the achievement of high performance. It has been demonstrated that strategic

hybrids in water supply companies can be an effective management instrument. Solutions for the operationalization of the hybrid scorecard in the form of a selected strategy map, business model canvas and project portfolio taking into account risk management principles were highlighted.

The synthetic findings of scientific research and related to the use of hybrid mechanisms by water companies indicate that:

1. This approach has a significant impact on the social and economic effects of water supply companies
2. The joint implementation of strategic hybrid components ensures the tightness of the network-based ecosystem where the water supply company is embedded.

The principles of implementing the business model and strategy together with processes and projects cover all levels of the water supply company, creating its social and economic value

The relevance, significance and contribution to science of the issues related to the mechanisms of effective strategic management of water supply companies based on the strategic hybrid are presented below.

In writing this article, the authors wanted to contribute an original and comprehensive approach related to defining the mechanisms of effective strategic management to the development and the theory and practice of strategic management of water supply companies. In the relevant literature, the place and role of strategic management systems based on the strategic hybrid of water supply companies in the context of their effectiveness has not been so extensively discussed so far.

The distinctiveness of the creative contribution is related to the presentation of a comprehensive scientific discussion and application solutions in the field of creating mechanisms for effective strategic management in the water supply enterprises.

The scope of the creative contribution is international because, due to the liberalization of the economy, the proposed solutions can be extended to water supply companies operating in the European Union. The effectiveness of the creative contribution is related to the achievement of the utilitarian goals of the paper, i.e., presenting managers with multidimensional strategic recommendations in the scope of the development and improvement of strategic management systems of water supply companies. The developmental character of the creative contribution lies in the fact that it will be the basis for further research and scientific reflections in this area.

**Author Contributions:** Conceptualization, B.K. and A.J.; methodology, B.K. and A.J.; software, B.K. and A.J.; validation, B.K. and A.J.; formal analysis, B.K. and A.J.; investigation, B.K. and A.J.; resources, B.K. and A.J.; data curation, B.K. and A.J.; writing—original draft preparation, B.K. and A.J.; writing—review and editing, B.K. and A.J.; visualization, B.K. and A.J.; supervision, B.K. and A.J.; project administration, B.K. and A.J.; funding acquisition, B.K. and A.J."

**Conflicts of Interest:** The authors declare no conflict of interest.

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