SILESIAN UNIVERSITY OF TECHNOLOGY PUBLISHING HOUSE

SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY 2024
ORGANIZATION AND MANAGEMENT SERIES NO. 206

KEY DETERMINANTS SHAPING THE EFFECTIVENESS OF DISTRIBUTION STRATEGIES IN THE POLISH COALMINES

Kornelia PRZEDWORSKA[1*], Paulina RUTECKA[2]

[1] University of Economics in Katowice; kornelia.przedworska@uekat.pl, ORCID: 0000-0003-2714-4066
[2] University of Economics in Katowice; paulina.rutecka@uekat.pl, ORCID: 0000-0002-1609-9768
* Correspondence author

Purpose: The aim of this article was to identify the key determinants of the effectiveness of distribution strategies in coal mines in Poland. The study was conducted through in-depth interviews with representatives of Polish coal mines, preceded by a literature review.
Findings: (mandatory) The research identified several determinants influencing the effectiveness of distribution strategies in a declining market. These determinants include both internal factors, such as customization of the offer and managerial decision-making, and external factors, like geological conditions, legal environment, and information technologies. Offer customization was highlighted as essential for meeting the needs of both intermediaries and end-users, while effective decision-making and communication within the company were found to be crucial for maintaining strategic flexibility and profitability. Geological conditions and compliance with legal regulations were also deemed critical for maintaining a stable and continuous production process.
Research limitations/implications: The study is limited to the specific context of mining enterprises operating in a declining market, which may not be generalizable to other industries or markets. Future research should explore these determinants in different sectors and contexts, and further investigate the dynamic interactions between internal and external factors affecting distribution strategies.
Practical implications: The findings suggest that mining enterprises should adopt a holistic approach to formulating distribution strategies, taking into account all identified determinants. This includes focusing on product customization, enhancing managerial decision-making processes, and ensuring compliance with legal regulations. Companies should also leverage information technologies to optimize operational processes and improve customer satisfaction. Implementing these strategies can improve the overall efficiency of distribution strategies and enhance the competitive position of the enterprise in a declining market.
Originality/value: This paper provides a novel contribution by identifying and analyzing a comprehensive set of determinants influencing the effectiveness of distribution strategies in the context of a declining market, particularly within the mining industry. The value of the paper lies in its holistic approach to understanding the interplay of these factors and its practical implications for enhancing strategic decision-making. The findings are particularly valuable for managers and decision-makers in the mining sector, policymakers involved in regulatory frameworks, and researchers exploring strategic management in challenging eco.
Keywords: distribution strategies, mining industry, determinants of effectiveness.
Category of the paper: research paper, case study.

1. Introduction

Research on the fuel and energy sector is of significant importance for the stable functioning of states, as this sector plays a crucial role in the economy (Kamiński, 2007, p. 253), especially in a country like Poland, where coal mining ranks fourth among GDP-contributing industries. The issue of managing a business in a declining market, such as coal mining in Poland, presents a challenge, and the effectiveness of distribution strategies becomes critical in this context. Any disruptions in fuel and energy supplies or price instability can negatively impact the economy. Throughout the post-war period, mining in Poland has been one of the most important sectors of the socialist economy (Łukaszczyk, 2017). Today, due to historical conditions, the special treatment of this industry stemming from tradition, and pro-environmental actions, it faces numerous challenges. In polish scientific literature hard coal is treated holistically (Przedworska, 2023) Researchers not dividing it into heating and coking coal (GUS, 2023). Due to economic transformations, as well as the pursuit of sustainable development and the reduction of fossil fuel consumption, the coal market is a declining market (Krzywda-Starzyk, 2021; Przedworska, 2021; Starzycka et al., 2020).

Recently, this sector has also been further impacted by the consequences of the Covid-19 pandemic and the war in Ukraine. The war in Ukraine and the embargo on Russian coal, first at the national level and eventually at the European level, caused significant disruptions in the domestic coal market. In 2021, Russia was the largest coal exporter to the European Union, with 75% of Poland's coal imports coming from Russia. Experts believe that Poland is "relatively safe due to domestic mining and available resources that allow for nearly full coverage of annual coal demand", but the absence of Russian coal in the domestic market "is a significant challenge from the perspective of energy security and economic stability in Poland" (Bukowski, Kobyłka, 2022). To meet demand and stabilize the market, the government, which holds majority stakes in most Polish mining enterprises, decided to intervene in the existing coal sales model.

Distribution is an essential marketing tool within an enterprise. Alongside product, price, and promotion, it constitutes a fundamental element of the classical set of tools that orient the enterprise towards the market and the customer (Mehmedov, 2023). Distribution is a mandatory component of the marketing mix, characterized by relatively low flexibility (susceptibility to change over time), with effects that are deferred (Wrzosek, 2005). An enterprise can achieve a competitive advantage through distribution elements (Paraschiv et al., 2020) such as an extensive sales network, product availability for buyers, fast and low-cost delivery, reduced capital freezing costs (Campos et al., 2023) or transportation costs, the use of multiple distribution channels, or the development of unique logistics practices and capabilities (Jelonek, 2004; Mellat-Parast, Spillan, 2014).

Effective distribution strategies play a crucial role in maintaining or increasing market share, expanding into new markets, reducing costs, and improving overall business performance (Campos et al., 2023; Odera, 2013). The selection, application, and management of distribution channel strategies are essential for effectively meeting customer needs (Mehmedov, 2023) while mitigating conflicts that may arise within distribution channels (Uche et al., 2022). Moreover, optimizing distribution processes can lead to a competitive advantage and improved business performance (Tuli, Fronda, 2023).

This study aims to identify the determinants of distribution efficiency in enterprises engaged in coal mining in Poland. Since, as stated, distribution is critically important to marketing, particularly in the context of coal mining enterprises, this study formulated the following research questions:

RQ1: What factors arising from the construction of distribution strategies impact the effectiveness of distribution strategies in coal mining enterprises?

RQ2: What factors arising from the interaction of other marketing tools affect the effectiveness of distribution strategies in coal mining enterprises?

The structure of the paper is presented as follows: in the literature review section discussed the significance of distribution as a component of the marketing mix for coal mining enterprises. Due to the specific nature of the coal industry, and political regulations, the review focuses on Polish literature. Section 3 presents the methodology of the study conducted by the authors among the coal enterprises in Poland, section 4 provides the results of the study, section 5 is a discussion on the results obtained by the authors.

2. Literature Review

The effectiveness of distribution depends on its interaction with other marketing instruments. A key factor influencing distribution efficiency and determining other distribution tools is product availability. It can impact the revenue and profit of both the seller and the buyer (Coyle et al., 2012) and has a positive and significant effect on customer satisfaction (Widianti, Sabar, 2019). At the same time, availability determines the size and location of inventories, affecting the total logistical cost of distribution (Li, J. et al., 2010), as it is crucial to maintain stock levels appropriately. This, in turn, is tied to storage costs, which are included in the final price of the product. Therefore, decisions regarding coal resources are strategic (Turek, Michalak, 2016) , and altering their structure is virtually impossible. The specific characteristics of these resources and their defined parameters make recombination impossible. Thus, the seller's role is primarily to minimize the total logistical cost of distribution, including the cost of transporting the product from the warehouse to the retailer and the cost of maintaining stock at the retailers (Flores et al., 2023; Schweitzer et al., 2024).

Product availability is also closely linked to pricing policy. Swami & Khairnara (2006) indicate that in situations characterized by shortages or limited product availability, companies maximize profits by gradually increasing product prices as they approach the limit of available supply. The lower the availability, the higher the price becomes, which in turn reduces customer satisfaction related to price perception. Since coal extraction is associated with improving the living conditions of retail consumers (Li, Q. et al., 2018), high prices increase the risk of energy poverty (Mgwambani et al., 2018).

The price of coal is also dependent on its quality. The higher the quality, the higher the price of commercial coal (Widianti, Sabar, 2019), with calorific value being the primary factor influencing prices on international markets. Lorenz & Grudziński (2003) did not confirm any correlation between coal prices and the ash and sulfur content in the product. In contrast, the research by Widianti & Sabar (2019) demonstrated a strong relationship between price and quality, showing that price perception has a positive and significant impact on customer satisfaction. To achieve a high level of satisfaction, coal companies should offer prices that correspond to the quality of the coal sold, in accordance with the terms of the contract. It was also noted that delivering coal that meets contractual quality improves customer satisfaction (Widianti, Sabara, 2019). Cebo emphasizes that the product must be tailored to market requirements to achieve optimal economic results (Cebo, 2017). Baic, Blaschke & Gaja (2019) indicated that 90% of extracted coal undergoes processing to enhance its quality and meet the expectations of end customers.

In addition to product quality, the profitability of a distribution channel is directly tied to the level of customer satisfaction (Stern et al., 2002). Moreover, customer satisfaction is closely linked to loyalty, which in turn increases profitability through repeat purchases and improved cash flows (Alsemgeest, Smit, 2013). Enhancing the effectiveness of the distribution channel is supported by monitoring its intermediaries. Monitoring is crucial because the decisions of one channel member affect the operations of others. An action taken by a retailer that influences sales volume will impact the manufacturer's sales, even if the manufacturer is not directly observing it (McGuire, Staelin, 2008).

Brand strategy will also influence efficiency, especially in the case of multi-channel sales. Differentiated branding and appropriate profit-sharing mechanisms help reduce competition and improve coordination between channels (Yan, 2011). However, no studies have been identified that directly link promotional activities in coal sales to customer satisfaction or purchasing decisions. Research on coal promotion has primarily focused on encouraging the use of clean coal technologies (Chen, Xu, 2010; Dubiński et al., 2005; Kumar, Kumar, 2018; Miller, 2017). Additionally, there are voices suggesting that promoting such technologies is a form of greenwashing (Wilkenfeld et al., 2007; Winston, 2009).

The choice of distribution strategy is crucial for ensuring timely and high-quality product deliveries to customers (Sylvia et al., 2021). his builds customer stability, a concept related to loyalty. Customer loyalty is defined as a strong commitment to repeatedly purchase

a company's products, despite competitive actions aimed at changing customer behavior. However, it is important to note that these repeated purchasing behaviors can be influenced not only by consumer preferences but also by high switching costs, inertia, or convenience (Biscaia et al., 2017). Poor strategic decisions can lead to organizational bankruptcy. Alhawamdeh & Alsmairat (2019) emphasize that strategic decisions cannot be separated from managers, and sales efficiency is influenced by employees at all levels. Turek & Michalak (2016) distinguish between various categories of human resources working in coal mines: management and supervisory staff, underground workers, and surface workers. The success of the organization will depend on employees with the right qualifications, experience, and organizational abilities.

Kozłowski & Wojtas (2017) argue that in modern and efficient mining facilities, planning and management decisions should be supported by advanced management methods utilizing IT systems, automation, and artificial intelligence. Bluszcz & Kijewska (2012) add that the implementation of IT systems in mining, related to post-sales services such as transportation, unloading, financial services, or scheduling convenient delivery times, is part of customer relationship management strategies that enhance customer satisfaction.

3. Methods

The study was qualitative and was conducted based on a partially structured in-depth interview scenario. The respondents were representatives of the management of Polish mining enterprises. The interviews were carried out between September and November 2022. The sample selection was purposeful, with the selection criterion being the possession of an active license for coal mining.

Interviews were conducted, and completed survey questionnaires were obtained from the all mining enterprises in Poland: Jastrzębska Spółka Węglowa S.A., Lubelski Węgiel Bogdanka, POLSKA GRUPA GÓRNICZA S.A. (PGG), Przedsiębiorstwo Górnicze "SILESIA" sp. z o.o., TAURON Wydobycie S.A., WĘGLOKOKS KRAJ S.A., Zakład Górniczy EKO-PLUS Sp. z o. o., Zakład Górniczy SILTECH.

Among the mining enterprises surveyed, one had coking coal as its dominant product, but this company also extracted thermal coal (Jastrzębska Spółka Węglowa, 2022). In contrast, for other companies (PGG, TAURON), coking coal was extracted only in certain facilities (por. Ganderska-Wojtaczka, 2011). Companies operating in Poland face similar challenges related to geology and mining, economics, and infrastructure. Therefore, in the authors' opinion, the experience of a mining enterprise primarily engaged in the extraction of coking coal could have contributed to increased distribution efficiency in other surveyed companies. Therefore, it was decided to study all enterprises, regardless of the category of hard coal they extract.

The questionnaire consisted of 19 questions, most of which were accompanied by additional, follow-up questions to deepen the understanding of the topic. The substantive scope of the interview focused on five areas, which were: Characteristics of distribution strategies, Measurement of distribution efficiency within the enterprise, Other marketing mix tools and their impact on distribution efficiency, Product availability and Costs of physical distribution.

The interviews conducted were transcribed and then analysed according to the procedure outlined by Creswell (2013). During the coding stage, a combination of thematic codes (pre-determined, derived from the literature review, with data matched to them) and emergent codes (developed during the analysis of the collected material) was used.

4. Determinants of Distribution Strategy Effectiveness

The analysis of the collected material allowed for the identification of a number of determinants that, according to the respondents, influence the effectiveness of distribution strategies. These are:

Table 1.
Identified determinants and selected responses from respondents

Action	Examples
CUSTOMIZATION OF THE OFFER	
By offering products that meet the expectations of buyers, whether they are the next link in the distribution chain or the final coal consumers.	PG8: We also produce such refined types of coal with special grain sizes, with special parameters. We can make… we tailor it to the customer's needs. PG6: The product is always tailored to the customer, with some limitations, of course, because coal is still a natural product. PG4: The implementation of technical solutions ensures that the product simply has the parameters expected by the end customer. Because that is the key to sales success.
PRODUCTION PLAN	
Effective production management requires accurate sales forecasts, which allow for adjusting the quantity and quality of extracted coal to the current and future market needs. Such a production plan enables the minimization of surpluses and shortages, which is crucial for optimizing resources.	PG5: It is well-known that the production planning process is extended over time; from the moment a decision is made about a specific coal seam, it takes roughly up to two years. So, it's clear that market conditions cannot be accurately predicted for that time frame. PG7: At the same time, preparing coal seams for extraction takes about two to three years. It's not as simple as turning a conveyor belt on or off. PG3: So, it would be great if miners could adapt to the season or market conditions, but that's not how it works. The coalface that will start operating in September at X [name of the mining facility, edited by author] in a few days was decided upon several years ago.

Cont. table 1.

OPERATIONAL STOCK	
Maintaining an appropriate level of operational inventory enables a company to meet its contractual obligations on time. This allows the company to gain a competitive advantage by ensuring continuity of supply for its customers, even in the face of unexpected disruptions.	PG2: First and foremost, it's the quality of the product we sell and the guarantee we provide. But that guarantee comes from the fact that we produce a certain amount, and we have a specific number of buyers, no more. And the buyer knows that they are assured of getting the product from us. PG5: Everyone builds their stockpile based on their experiences, needs, and personal judgment, but the rhythm and assurance of deliveries are the most important aspects of the entire supply chain. The effectiveness of these deliveries is most often evaluated during negotiations with a given contractor. PG8: If there is no stockpile, there is no fluidity or regularity in shipments. This is crucial for maintaining contract schedules, not to mention spot deals, maintaining coal quality, and avoiding penalties, etc. (…) So, everything has to run like clockwork. And for it to run like clockwork, there must be a stockpile, a buffer to regulate the continuity of shipments.
PRICE POLICY	
By skillfully shaping prices, a company can influence the demand for its products, allowing for better alignment with coal supply. Pricing policy takes into account the optimization of inventory levels, preventing the waste of resources.	PG2: There's no buyer for coal at a certain price. So, we have to consider whether to lower the price a bit to sell it, and that's how it went. PG5: When there was an oversupply of coal, we ran promotional campaigns. If someone purchased a certain volume during a specific period, they could expect some bonuses. PG8: During tough times, we offered [trade credits], extending payment terms.
THE IMPORTANCE OF RELATIONSHIPS	
Building and maintaining strong relationships with customers is crucial for the success of personal sales, especially in conditions of market oversupply. Good relationships can significantly enhance customer loyalty and willingness to purchase, which is invaluable in the coal industry when there is an excess supply of the product.	PG1: When coal was on the market at that price, the Russian coal was cheaper... but they often bought from me at a much higher price than the Russian coal. Because, you know, it's not just about the price, there are relationships involved, sometimes you share a drink [laughs]! PG3: We used to do it, but we stopped last year, mainly because of the pandemic – at least once a year, we had meetings with our representatives. At least once, sometimes twice a year. During these meetings, we presented our sales strategy. (…) And clearly, I'm a strong advocate of such actions, and they definitely help the strategy and boost sales. PG6: …our direct marketing with the client, because I emphasize that we should go out, gather information from the market, get that feedback. Otherwise, we sit in the office, detached from reality, not really knowing what's happening on the market. From our perspective, from my perspective as someone involved in marketing, it is more important... PG8: Historical relationships, for sure, that's one thing. Secondly, the trust that exists on the market. In the coal industry today, there aren't any other instruments needed, at least not for now.
GEOLOGICAL CONDITIONS	
Possessing geological resources that are economically viable and have a low risk of hazards is essential for maintaining continuous and stable production. Such resources represent a strategic asset that can provide a competitive market advantage.	PG4: Yes, we closed another mine, because we shut down X [name of the mine, edited by the author] due to the exhaustion of extraction fronts. As a result, in our case, we are naturally shrinking our production. PG7: And we have a clearly defined production level, with possible deviations either on the positive side due to better geological conditions, or on the negative side due to geological problems. It's not possible, like when we lost a million tons this year, there's no opportunity to make up for that. PG8: We are not a mine with four, five, or six active coal faces, where if one fails, nothing major happens. For example, every mine, whether PGG or Bogdanka, experiences face failures, but no one counts that in the deficit—these are massive amounts. For instance, Bogdanka now has a shearer jam and a collapse of the coal face. This means they won't have any extraction for 12 months. They will lose about 1.5 million tons of coal over the year, meaning 1.5 million tons of coal won't enter the market.

Cont. table 1.

DECISIONS MAKING	
The success of a company largely depends on its managers' ability to make sound strategic decisions that enhance sales profitability. Managers must be able to analyze market conditions and respond swiftly to changes.	PG3: It's the commercial division, with its experience and forecasting based on various analyses and predictions, that drives this process, but everything is ultimately approved by the management board. PG6: Management decisions are not made in isolation. We have numerous departments involved in various aspects of process analysis, including internal controls and safety offices monitoring what happens in the mines. My office, in addition to handling marketing, is also responsible for analyses, producing daily quantitative, qualitative, and value-based reports on sales to specific segments. The management board has full access to this information, enabling them to make informed decisions and implement changes in distribution channels as needed. PG8: In the past, we had meetings with the management board once a quarter. Now, I have meetings with them three times a week: discussing what we are doing with prices, who we are selling to, who we are not selling to, why this and not that—it's madness. (…) My direct boss is the president, who is also the owner, and the board itself, because otherwise, they would crush me [laughs] and probably cart me away. So, I coordinate with the board, and then the board communicates with KRZG, meaning the mine's operations, saying—produce this, this, and this based on sales.
EMPLOYEE QUALIFICATIONS AND MOTIVATION	
The operational efficiency of a company is directly linked to the qualifications, experience, and organizational abilities of employees at all levels. Their motivation, driven by the opportunity to earn higher wages, is also a key factor in success.	PG1: We want to maintain a high level of service quality because these are good employees, and that loader operates around the clock, ma'am—Saturdays, Sundays. Besides loading and shipping goods, when coal keeps coming down the shaft, they have to transport it. This is a dedicated crew, they're not just sellers. It's not like in a regular company with shareholders. PG3: But the knowledge about coal, gained from the ground level, about its production and extraction, really helped us. They didn't just come in and believe… now I can also explain how coal is mined. I thought I was convincing. It's not like someone, with all due respect, just fresh out of some economics studies, suddenly comes and starts selling coal. In every field, with every product, I believe you need to have knowledge about the product. Not just the product itself, but also how it's produced. PG8: There are coal faces that are only 1.3 meters high, and miners have to crouch to enter. They don't want to go in—they're scared, so they get bonuses, around 1000 to 2000 PLN, just to enter. (…) And in mines like ours, similar ones have 3000 workers. We have 1400 and do the same amount of work. That's something. And we're not exhausted. This is the result of proper organization, foresight, planning—excellent planning.
INFORMATION TECHNOLOGIES	
The use of modern information technologies for managing mining resources can significantly streamline operational processes and improve customer satisfaction through more efficient and automated service systems. Distribution logistics are enhanced by supporting timely fulfilment of contracts and aligning sales volumes with loading capacities.	PG5: Well, certainly some IT technologies are being introduced, mostly for data exchange, such as information flows, typically related to quality. (…) Various IT programs are definitely being developed and implemented to help predict this quality, so there are certainly efforts focused on the quick exchange of information with customers. Also, for better forecasting, identifying the deposit, predicting coal quality, and configuring operations to achieve the best possible quality. PG4: Well, life forced us to introduce the helpline, and it's pushing us to implement a hybrid solution—not quite an open online store, but a formula for an online store that completes the process. That means reserving a purchase date via the helpline, but the actual purchase happens in the online store, where the process is finalized—payment and so on. (…) We're introducing various IT tools to minimize the need for direct customer service. PG8: But we have an electronic B2B system. The driver receives an entry PIN, a time slot, and a window for entry, including for rail deliveries as well. So we are definitely winning through logistics at this point. It's no longer about coal availability, quality, or price, but logistics.

Cont. table 1.

DISTRIBUTION LOGISTICS	
Effective distribution logistics play a crucial role in ensuring timely deliveries and aligning sales volumes with loading capacities. A well-functioning logistics system minimizes delays and optimizes the use of transportation resources.	PG5: Yes, we do have quite a bit of coal to transport, but the efficiency of the sidings is, shall we say, limited. If the railcars aren't brought in as they should be, then problems arise—queues, delays, and so on. The whole distribution chain breaks down. PG7: Our sales efficiency here depends on minimizing losses and ensuring a steady rotation of railcar loading and delivery to the customer. [...] This factor involves the potential for service, specifically the availability of railcars and their provision, as our sales rely on very large tonnages, i.e., volume. Thus, the ability to provide service is... cost efficiency for our customers is always the top priority, but also possessing the necessary competencies to handle specific routes. PG8: Additionally, trucks that arrive but are not loaded will incur penalties for us. They came to us, covered a certain distance, and completed the logistical approach, and then, what, they didn't receive any coal.
CUSTOMERS STABILITY	
Customer stability, arising from predictable purchasing behaviours and readiness for irregular purchases, is a crucial element of distribution strategy effectiveness. Stable relationships with customers facilitate sales and production planning.	PG4: However, with those clients and distributors, it was somewhat on their side; we could reschedule them from one day to the next week, or we would call them: "We need you to provide a few trucks today because we already have too much coal in the storage." And they would then send the trucks. PG5: Our strategy is based on long-term contracts. (...) So if they have a reliable source of supply and proven coal, they usually stick with it. Hence, these long-term relationships are, let's say, the core of this business. (...) It is a mutual interest. They want stable deliveries, and we want stable customers. PG7: This is both a concentration of volume and decision-making within a narrow group, which makes management much easier. Additionally, we know the partner on the other side. (...) We base our operations on long-term cooperation (...) because we rely on multi-year contracts. This gives us an understanding and knowledge of how our sales and production will be structured for several years ahead, thus placing more emphasis on managing customer relationships.
STATE POLICY	
Government interventions in market mechanisms can significantly impact a company's operations. State policies, regulations, and subsidies can directly or indirectly support or restrict a company's activities, influencing its distribution strategy.	PG8: A mine that operates according to a production plan often relies on state subsidies. The government injects significant amounts of money into such operations. PG6: Even though our authorized sellers continued to buy coal at 500-600 PLN per ton, they sold it for 1600-2000 PLN, which, for political reasons, was unacceptable. As a state-owned company, we had various requests [laughs] for intervention. PG8: We have to be very mindful of this because a mine operates under concessions. Even private mines are subject to state authorities. So if an official comes to us and something doesn't meet their standards, they can say, "I'm stopping this panel," and we might not be able to defend ourselves effectively.
LEGAL ENVIRONMENT	
Legal regulations that can limit supply and demand for certain product groups significantly impact distribution strategy. Companies must adapt to existing regulations to avoid sanctions and maximize market benefits.	PG2: Indeed, we must operate within the framework of geological and mining laws, as well as all related regulations, even though we are a relatively small operation. Similarly, in coal trading, we are required to adhere to existing norms and standards, and we cannot dictate the terms ourselves. PG8: We must take this into account because a mine operates under a system of licenses. Even a private mine is subject to state authorities. PG1: We don't want promotions because we can't mine more, as we're not allowed to. If it were a normal capitalist economy, I'd immediately start mining everywhere around, but it's not possible due to bureaucracy. It's not that they can't give permission, but they don't want to grant it—I don't understand this…

Cont. table 1.

DECARBONIZATION	
The increased emphasis on decarbonization, which leads to reduced demand for coal and restrictions on its extraction, significantly affects the effectiveness of distribution strategies. Companies must adapt their strategies to the changing market and regulatory conditions related to the energy transition.	PG3: And building a long-term strategy in the coal market is, in my opinion, not feasible at the moment. I'm already abstracting from this year. But in the previous years... there is a European strategy—moving away from coal—and this has been happening in Poland over the last few years. PG4: Later, a social agreement came into effect due to the condition of the industry, which led to a notification to the EU about a law on reducing production capacities in the country. Now, this year [2022], it all sounds strange, but it still functions. This law concerning subsidies to mining enterprises is in place, and therefore, mining is still ongoing. PG8: Before the war, prices were very stable, coal was cheap, and importing it was not profitable, and so on. However, the concept of decarbonization and the trend towards phasing out coal and solid fuels have changed that.

The bar chart shows the number of companies mentioning specific determinants that impact the effectiveness of their distribution strategies.

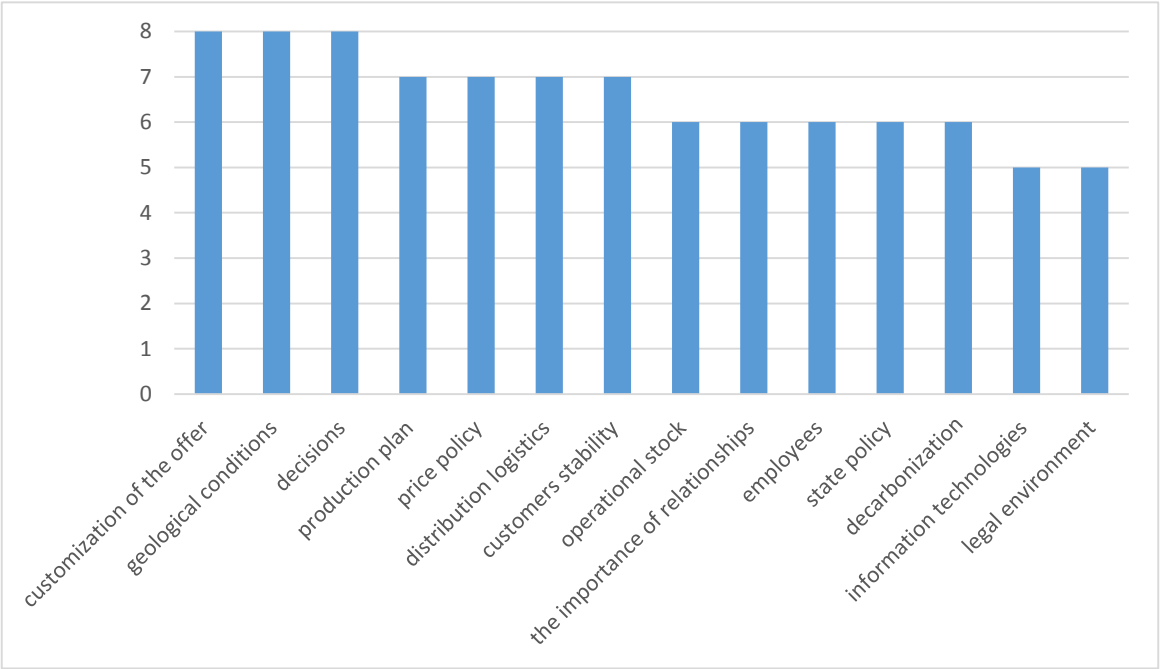


Figure 1. Specific determinants mentioned by companies.

Key factors frequently highlighted include "decisions" and "customization of the offer", suggesting that strategic decision-making and tailoring services to customer needs are seen as highly influential. Very important are also “geological conditions”. Conversely, factors such as "information technologies" and "legal environment" are mentioned less frequently, indicating they might be considered less critical or are already effectively managed. The broad range of determinants reflects the complex and multifaceted nature of distribution strategy efficiency in businesses.

These factors have been categorized into three groups, which are illustrated in Figure 2.

The first circle represents the production processes. These are factors over which the enterprise has direct control through its actions related to:

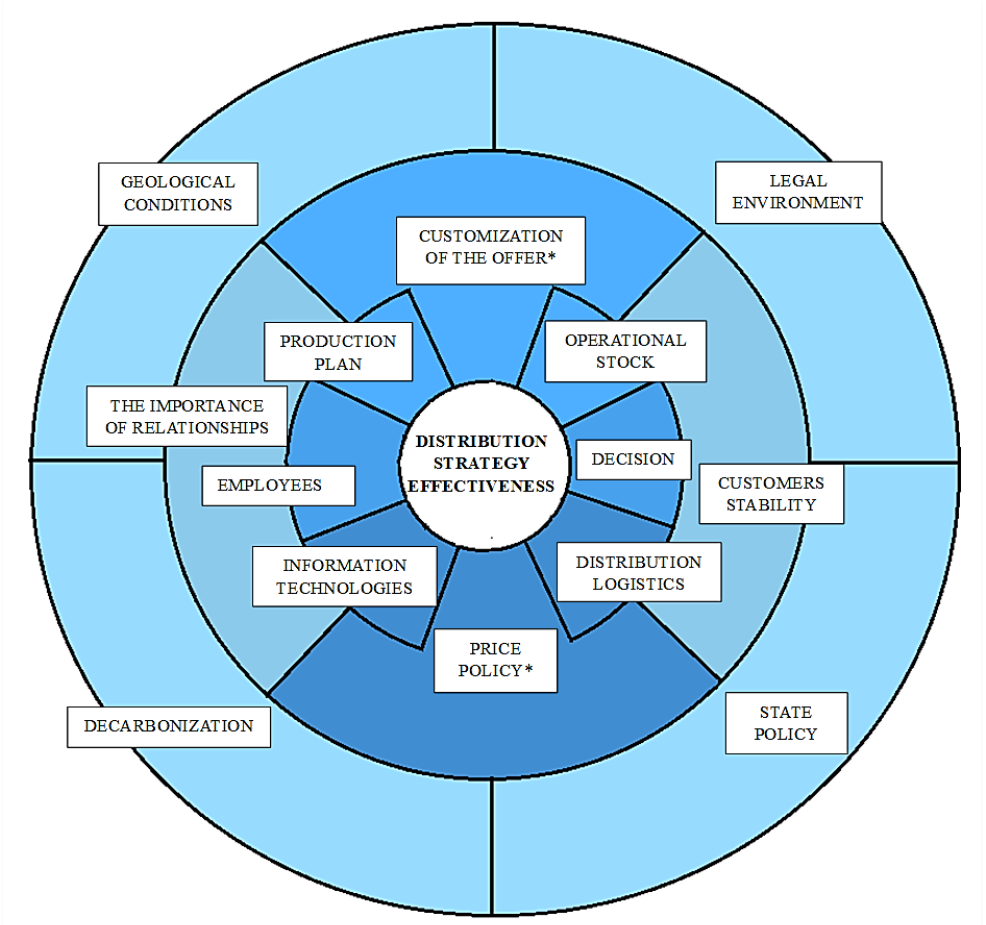
- Personnel management (employees at various levels and decision-making authority).
- Production management (production planning and adaptation, operational inventory).
- Sales management (utilized IT technologies, distribution logistics, and pricing policy).

The second circle represents the immediate environment of the company, related to:

- Product offering (product adaptation, pricing policy as a regulator of sales).
- Company customers (their stability/loyalty and relationships with them).

The third circle represents the broader environment of the enterprise, associated with:

- Geological conditions of mining operations.
- Legal environment and state policy.
- Decarbonization as a part of climate policy.



***** They were marked as a common part of the first and second circles due to the fact that both product fit and pricing policy are the result of the company's capabilities and market conditions, as the product and price are set by the company, but research has shown that they are strongly determined by the closer environment.

Figure 2. The Concept of Determinants of Distribution Strategy Efficiency in a Mining Enterprise [own].

Price policy and customization of the offer were highlighted as a common area between the first and second circles. This is because both product adaptation and pricing policy are the result of the enterprise's capabilities and market conditions. While the product and price are set by the enterprise, research has shown that they are strongly influenced by the immediate environment.

5. Discussion and conclusion

The conducted research revealed a number of determinants influencing the effectiveness of distribution strategies in a declining market. These include factors both dependent and independent of the enterprise. All of these factors impact the outcomes achieved by the enterprises or the costs associated with sales, thereby contributing to the overall efficiency of distribution strategies.

The most frequently cited determinants are Customization of the Offer, Decision Making, and Geological Conditions. Customization of the Offer, as mentioned in studies (Widianti, Sabar, 2019), involves providing products that meet the expectations of both intermediaries and end-users to enhance the quality of the final product. Respondents emphasized the necessity of producing a final product that aligns with customer needs, while being mindful of the limitations imposed by the natural characteristics of the raw material and the need for implementing technologies that ensure high-quality outcomes. The production of high-quality, personalized products, identified by study participants as crucial for sales success, is intrinsically linked to managerial decisions and the competencies of the management team (Turek, Michalak, 2016). The success of a company largely depends on its managers' ability to make strategic decisions that increase sales profitability. Managers must be capable of analyzing market conditions and responding swiftly to changes. Respondents noted that most decisions are based on data; however, the final decision is made by the management board. It is also emphasized that communication between the management board and the departments responsible for data collection and analysis is critically important for strategic decision-making. Nonetheless, there is a perception that despite the increased number of meetings, employees feel that decisions are made authoritatively. Additionally, Geological Conditions, or the possession of economically viable and safe geological resources, is crucial for production continuity and stability, serving as a strategic asset and competitive advantage, as highlighted by all respondents.

Among the least frequently cited determinants are Information Technologies, understood as the use of modern technologies (Bluszcz, Kijewska, 2012; Kozłowski, Wojtas, 2017) for managing mining resources, including logistics processes, streamlining operational processes, and improving customer satisfaction. According to respondents, the effectiveness of distribution strategy is also influenced by the Legal Environment, which encompasses the legal

framework of the enterprise and the activities of the state. This primarily concerns compliance with geological and mining law, as well as regulations that directly or indirectly affect the demand for the company's products and condition its supply. An example is the Regulation of the Minister of Energy of September 27, 2018, on quality requirements for solid fuels (Dz.U. 2018, poz. 1890), and its subsequent revocation by the Regulation of the Minister of Climate and Environment of August 25, 2022, concerning the waiver of the requirements set forth in the regulation on quality requirements for solid fuels (Dz.U. 2022, poz. 1786). The first document established the parameters for offered coal, prohibiting the trade of certain assortments and restricting the turnover of others, to which mining plants had to adapt. The second document temporarily opened the market, giving mining companies the opportunity to sell, for example, coal dust. Additionally, the Polish state, as the owner or co-owner of some mines, has a direct influence on decisions made there.

6. Summary

The conducted research identified the factors determining the effectiveness of distribution strategies for mining enterprises operating in a declining market (see Fig. 2). Analyzing these factors should serve as a basis for formulating an effective distribution strategy. The company should consider all three groups of factors, taking into account their potential impact on the selected groups. These factors should be examined holistically, without neglecting or overlooking any of the groups. Future research should explore these determinants in different sectors and contexts and further investigate the dynamic interactions between internal and external factors affecting distribution strategies. The findings are particularly valuable for managers and decision-makers in the mining sector, policymakers involved in regulatory frameworks, and researchers exploring strategic management in challenging economic environments.

References

1. Alhawamdeh, H.M., Alsmairat, M.A. (2019). Strategic decision making and organization performance: A literature review. *International review of management and marketing, 9(4),* 95-99.
2. Alsemgeest, L., Smit, A. v A. (2013). The Contribution Of Business Units To Overall Company Customer Satisfaction And Profitability. *Journal of Applied Business Research (JABR), 29(4), Article 4*. https://doi.org/10.19030/jabr.v29i4.7918

3. Baic, I., Blaschke, W., Gaj, B. (2019). Przeróbka węgla kamiennego w Polsce – stan obecny i trendy przyszłościowe. *Zeszyty Naukowe Instytutu Gospodarki Surowcami Mineralnymi i Energią PAN, nr 108*.
4. Biscaia, A.R., Rosa, M.J., Moura e Sá, P., Sarrico, C.S. (2017). Assessing customer satisfaction and loyalty in the retail sector. *International Journal of Quality & Reliability Management, 34(9)*, 1508-1529. https://doi.org/10.1108/IJQRM-03-2015-0039
5. Bluszcz, A., Kijewska, A. (2012). Informatyczne wspomaganie zarządzania łańcuchem dostaw przedsiębiorstwa górniczego. In: *Problemy logistyczne, jakościowe i personalne w zarządzaniu przedsiębiorstwem* (pp. 61-81).
6. Bukowski, M., Kobyłka, K. (2022). *Nowy paradygmat. Dlaczego energetyka potrzebuje konkurencji?* Warszawa.
7. Campos, P.M., Pimentel, C.M.O., Lopes, J.D. (2023). Angolan Cement Industry: Marketing Channel and Distribution Channel Strategies. In: J.C. de Oliveira Matias, C.M. Oliveira Pimentel, J.C. Gonçalves dos Reis, J.M. Costa Martins das Dores, G. Santos (eds.), *Quality Innovation and Sustainability* (pp. 323-335). Springer International Publishing. https://doi.org/10.1007/978-3-031-12914-8_25
8. Cebo, W. (2017). Aktualny stan oraz główne kierunki rozwoju przeróbki węgla kamiennego w Polskiej Grupie Górniczej sp. z o.o. *Inżynieria Mineralna, R. 18, nr 2*.
9. Chen, W., Xu, R. (2010). Clean coal technology development in China. *Energy Policy, 38(5)*, 2123-2130. https://doi.org/10.1016/j.enpol.2009.06.003
10. Coyle, J.J., Langley, C.J., Novack, R.A., Gibson, B. (2012). *Supply Chain Management: A Logistics Perspective*. Cengage Learning.
11. Creswell, J.W. (2013). *Projektowanie badań naukowych. Metody jakościowe, ilościowe i mieszane*. Wydawnictwo Uniwersytetu Jagiellońskiego.
12. Dubiński, J., Turek, M., Aleksa, H. (2005). Węgiel kamienny dla energetyki zawodowej w aspekcie wymogów ekologicznych. *Prace Naukowe GIG. Górnictwo i Środowisko. Główny Instytut Górnictwa, nr 2*, 5-21.
13. Flores, J.R., Cúnico, M.L., Vecchietti, A. (2023). A disjunctive model to analyze and redefine the logistic of replenishing goods of retailing stores. *Optimization and Engineering, 24(2)*, 779-799. https://doi.org/10.1007/s11081-021-09706-z
14. Ganderska-Wojtaczka, K. (2011). *Baza zasobowa węgli koksowych kopalń wchodzących w skład Kompanii Węglowej SA.* XXV konferencja z cyklu Zagadnenia surowców energetycznych i energii w gospodarce krajowej. Zakopane.
15. GUS (2023). *Zużycie paliw i nośników energii w 2022 roku*. Główny Urząd Statystyczny. https://stat.gov.pl/download/gfx/portalinformacyjny/pl/defaultaktualnosci/5485/6/17/1/zuzycie_paliw_i_nosnikow_energii_w_2022.pdf
16. Jelonek, D. (2004). Wybrane źródła konkurencyjnej przewagi przedsiębiorstwa w przestrzeni internetowej. *Studia i Materiały Polskiego Stowarzyszenia Zarządzania Wiedzą, 3*, 19-26.

17. Kamiński, J. (2007). Liberalizacja rynku energii elektrycznej a zużycie węgla w sektorze elektroenergetycznym—Ujęcie modelowe. *Polityka Energetyczna, T. 10, spec. 2,* 253-275.
18. Kozłowski, A., Wojtas, P. (2017). Systemowe podejście do cyfryzacji w procesach technologicznych w górnictwie. *Zeszyty Naukowe Instytutu Gospodarki Surowcami Mineralnymi i Energią PAN, nr 99*. http://yadda.icm.edu.pl/baztech/element/bwmeta1.element.baztech-2710f428-f0d8-4b3e-bb48-e16262246f2f
19. Krzywda-Starzyk, P. (2021). Wałbrzych Meant Coal: The Closure of the Wałbrzych Mines in the Context of the Socio-Technical Carbon Lock-In. *Regional Journal [Biblioteka Regionalisty], 21*, 62-77. https://doi.org/10.15611/br.2021.1.06
20. Kumar, D., Kumar, D. (2018). Chapter 1—Introduction. In: D. Kumar, D. Kumar (eds.), *Sustainable Management of Coal Preparation* (pp. 3-14). Woodhead Publishing. https://doi.org/10.1016/B978-0-12-812632-5.00001-X
21. Li, J., Chen, H., Chu, F. (2010). Performance evaluation of distribution strategies for the inventory routing problem. *European Journal of Operational Research, 202(2),* 412-419.
22. Li, Q., Stoeckl, N., King, D., Gyuris, E. (2018). Using Both Objective and Subjective Indicators to Investigate the Impacts of Coal Mining on Wellbeing of Host Communities: A Case-Study in Shanxi Province, China. *Social Indicators Research, 137(3),* 895-921. https://doi.org/10.1007/s11205-017-1624-2
23. Lorenz, U., Grudziński, Z. (2003). Hard coal for energetic purposes: Price–quality relationships; international coal market observations and Polish practice. *Applied Energy, 74(3),* 271-279.
24. Łukaszczyk, Z. (2017). Szkic o dziejach górnictwa węgla kamiennego na Górnym Śląsku. Zmieniamy górnictwo w sercu Śląska. In: *De profundis ad Te clamamus. Świat górników w radiowych i telewizyjnych homiliach biskupów katowickich na uroczystość św. Barbary (1983-2016). Edycja źródeł z komentarzem* (pp. 39-45). Księgarnia św. Jacka.
25. McGuire, T.W., Staelin, R. (2008). An Industry Equilibrium Analysis of Downstream Vertical Integration. *Marketing Science, 27(1),* 115-130. https://doi.org/10.1287/mksc.1070.0335
26. Mehmedov, M. (2023). Marketing and logistics – two sides of customer/consumer satisfaction. *E3S Web of Conferences, 376,* 04025. https://doi.org/10.1051/e3sconf/202337604025
27. Mellat-Parast, M.E., Spillan, J. (2014). Logistics and supply chain process integration as a source of competitive advantage: An empirical analysis. *The International Journal of Logistics Management, 25(2),* 289-314.
28. Mgwambani, S.L., Kasangana, K.K., Makonese, T., Masekameni, D., Gulumian, M., Mbonane, T.P. (2018). *Assessment of Household Energy Poverty levels in Louiville,* Mpumalanga, South Africa. 2018 International conference on the domestic use of energy (DUE). International Conference on the Domestic Use of Energy (DUE). New York. https://www.webofscience.com/wos/woscc/full-record/WOS:000455158500007

29. Miller, B.G. (2017). 4—Introduction to Coal Utilization Technologies. In: B.G. Miller (ed.), *Clean Coal Engineering Technology (Second Edition)* (pp. 147-229). Butterworth-Heinemann. https://doi.org/10.1016/B978-0-12-811365-3.00004-1
30. Odera, O. (2013). Analysis of retail marketing strategies on organizational competitiveness. *International Journal Of Management & Information Technology, 3(2), Article 2*. https://doi.org/10.24297/ijmit.v3i2.1366
31. Paraschiv, C., Benmoyal-Bouzaglo, S., Boissinot, A. (2020). Vers un modèle intégré de perception de la livraison par les consommateurs: Une rencontre entre le marketing et la logistique. *Recherches en Sciences de Gestion, 139(4),* 109-136. https://doi.org/10.3917/resg.139.0109
32. Przedworska, K. (2021). Zarządzanie marketingowo-logistyczne w firmach pośredniczących w handlu węglem kamiennym. In: N. Iwaszczuk (ed.), *Decyzje menedżerskie w warunkach zmiennego otoczenia* (pp. 73-85). Wydawnictwo AGH.
33. Przedworska, K. (2023). *Efektywność strategii dystrybucji na rynku schyłkowym*. Uniwersytet Ekonomiczny w Katowicach. https://bip.ue.katowice.pl/fileadmin/user_upload/jednostki/komitety-naukowe/doktoraty/przedworska/mgr_Kornelia_Przedworska_-_rozprawa_doktorska.pdf
34. Schweitzer, N.L.S. de S., Arante, M.T., Agostino, Í.R.S., Braghirolli, L.F., Mafia, M.M.P., Frazzon, E.M. (2024). Ship-from-store omnichannel using a 4pl digital platform. *Brazilian Journal of Operations & Production Management, 21(2), Article 2*. https://doi.org/10.14488/BJOPM.1856.2024
35. Starzycka, A., Młynarczyk, M., Zdanowski, A. (2020). *Węgiel kamienny.* Państwowy Instytut Geologiczny.
36. Stern, L.W., El-Ansary, A.I., Coughlan, A.T. (2002). *Kanały marketingowe*. PWN.
37. Swami, S., Khairnar, P.J. (2006). Optimal normative policies for marketing of products with limited availability. *Annals of Operations Research, 143(1),* 107-121.
38. Sylvia, T., Sembiring, N.B., Ulfiyati, N. (2021). Distribution Strategies Analysis Using AHP and TOPSIS: A Distribution Company Case's Study in Special Region of Yogyakarta, Indonesia. *Journal of Science and Applicative Technology, 5(2), Article 2*. https://doi.org/10.35472/jsat.v5i2.364
39. Tuli, C., Fronda, J. (2023). Marketing Strategies of Retail Enterprises in Guangdong, China: Basis for Marketing Plan. *The Quest: Journal of Multidisciplinary Research and Development, 2(3), Article 3*. https://doi.org/10.60008/thequest.v2i3.153
40. Turek, M., Michalak, A. (2016). Metoda kompleksowego audytu kopalń węgla kamiennego w kontekście oceny ich perspektyw rozwojowych. *Zeszyty Naukowe. Organizacja i Zarządzanie, z. 87.* Politechnika Śląska, 415-428.
41. Uche, D.B., Anene, J.N., Nnabugwu, E.L. (2022). Effect of Distribution Channel Strategies on the Performance of Banks. *Daengku: Journal of Humanities and Social Sciences Innovation, 2(2),* 104-116. https://doi.org/10.35877/454RI.daengku732

42. Widianti, A., Sabar, M. (2019). The influences of product quality, service quality and price perception on coal customer satisfaction of PT Sriwijaya Bara Priharum. *International Journal of Innovative Science and Research Technology, 4(12)*, 365-372.
43. Wilkenfeld, G., Hamilton, C., Saddler, H. (2007). *'Clean Coal'and Other Greenhouse Myths*. Australia Institute.
44. Winston, L.E. (2009). *Clean Coal Technology: Environmental Solution or Greenwashing?* Ohio University.
45. WiseEuropa (2024). *WiseEuropa*. https://wise-europa.eu/
46. Wrzosek, W. (ed.) (2005). *Efektywność marketingu.* PWE.
47. Yan, R. (2011). Managing channel coordination in a multi-channel manufacturer–retailer supply chain. *Industrial Marketing Management, 40(4)*, 636-642.