

Kornelia PRZEDWORSKA

Marketing mix in a declining market

The response to market and sector-specific environmental challenges



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Kornelia Przedworska

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**The response to market and sector-specific
environmental challenges**



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Table of contents

Introduction	7
Chapter 1. Theoretical foundations of the declining market	11
1.1. Characteristics of declining markets: definitions, features, and challenges	11
1.2. Management strategies in the declining phase of the market life cycle	17
1.3. The hard coal market in Poland as an example of a declining market	22
Chapter 2. Marketing mix – concept and its adaptation in a declining market	28
2.1. Evolution of the marketing concept and marketing mix	28
2.2. The specifics of marketing in declining markets.....	37
2.3. Adaptation of the 4P elements in declining market conditions	41
2.3.1. Product portfolio management: reductions, niches, new directions ...	42
2.3.2. Price: flexibility in the face of declining demand	45
2.3.3. Distribution: maximizing the reach with minimal costs.....	48
2.3.4. Promotion: building loyalty and brand image in changing conditions	51
Chapter 3. Empirical research results – analysis of the marketing mix in the coal market in Poland	54
3.1. Research methodology	54
3.2. Product analysis in light of the research.....	54
3.2.1. Product structure of coal suppliers in a declining market	55
3.2.2. Diversification of fuel depots offerings as a response to a changing market	56
3.2.3. Observed changes in customer preferences toward environmentally friendly coal fuels	57
3.2.4. Customer preferences vs. company actions – dependency analysis..	59
3.2.5. Discussion	60
3.3. Conclusions and recommendations for pricing policy	61
3.3.1. Pricing strategies – between dependence and flexibility	61
3.3.2. Discount policy as a tool for stabilizing and transforming the offer..	63
3.3.3. Price sensitivity of customers and barriers to offer transformation ...	66
3.3.4. Payment methods as a tool to support offer transformation	67
3.3.5. Discussion	68

3.4. Evaluation of distribution channel effectiveness.....	69
3.4.1. Sales channels as an element of distribution strategy in a declining market.....	70
3.4.2. Transport service as an element of added value in a declining market.....	74
3.4.3. Operational efficiency and customer loyalty – order fulfillment times at fuel depots	75
3.4.4. Procurement and inventory management strategies in a declining market.....	77
3.4.5. Potential for changing the distribution system according to fuel depots’ assessment.....	78
3.4.6. Discussion	79
3.5. Verification of the effectiveness of promotional activities	81
3.5.1. Promotional activities in a declining market – preferences of coal distributors	81
3.5.2. Presence of fuel depots on social media – adaptation to digital forms of communication.....	83
3.5.3. Frequency of online offer updates – diverse approaches to digital marketing in a declining market	84
3.5.4. Customer interest in ecological aspects – an underutilized communication potential.....	86
3.5.5. Self-assessment of marketing effectiveness – moderate optimism with room for improvement	87
3.5.6. Discussion	90
3.6. Strategy and market environment.....	91
3.6.1. Future outlook for the hard coal market – pessimism as the dominant sentiment among distributors.....	91
3.6.2. Customer outflow towards alternative heat sources – distributors’ perspective.....	93
3.6.3. Diversification plans – strategic responses of fuel depots to the changing environment.....	94
3.6.4. Changes in customer preferences and availability of external support – factors influencing the transformation directions of fuel depots.....	94
3.6.5. Perception of key factors influencing the future of fuel depots operations.....	95
3.6.6. Adaptive actions undertaken by fuel depots in response to market changes	97
3.6.7. Adopted operation strategies in the coming years.....	98

3.6.8. The impact of planned diversification on the offer of alternative fuels.....	100
3.6.9. Customer ecological pressure and the choice of market strategy	101
3.6.10. External support and planned diversification	102
3.6.11. Impact of market experience on its future assessment	103
3.6.12. Differentiation of strategies based on the influence of market factors.....	104
3.6.13. Company size and strategy selection.....	105
3.6.14. Company experience and operation strategy.....	106
3.6.15. Discussion	109
Conclusion	111
Appendix 1: Research methodology	119
Appendix 2: Survey	124
Literature	129
List of tables	141
List of figures	142

Introduction

Contemporary marketing theory and practice primarily focus on emerging markets, product expansion, and the creation of innovative value for customers. Meanwhile, the phenomenon of market decline – defined as the phase of systematically decreasing demand for a particular good or service – is no less important from both a strategic and operational perspective. Marketing management in a declining market poses a unique challenge: it requires not only a redefinition of business objectives but also flexibility, innovation, and the ability to operate in a shrinking market environment.

The inspiration for addressing this topic stemmed from observing the transformation of the hard coal sector in Poland – a market that exhibits characteristics typical of the decline phase. Changing regulations, increasing environmental pressure, shifting consumer attitudes, and long-term energy trends have forced market participants to undertake deep adjustments, often pushing the boundaries of what is feasible in market terms. Analyzing the marketing strategies of entities operating under such specific conditions allows for a better understanding of management in a declining market context, as well as the identification of mechanisms for extending the product life cycle and rationalizing operations.

The presented monograph is an extension and continuation of research conducted by the author for her doctoral dissertation, which focused on the effectiveness of distribution strategies in the hard coal mining sector. That earlier research project analyzed the role of mining enterprises and the functioning of Intermediary Coal Entities (ICEs), whose significance gradually diminished as a result of geopolitical changes and regulatory decisions – particularly following the outbreak of the full-scale war in Ukraine and the introduction of an embargo on coal imports from Russia. Transformations in the structure of distribution channels and the loss of authorized seller status by many intermediaries highlighted the need to broaden the research perspective and focus on the commercial links closest to the end customer. This shift enabled a more in-depth analysis of the adaptive mechanisms within the marketing mix employed by fuel depots in conditions not only of declining demand but also of institutional and market uncertainty. As a result, the monograph contributes to a deeper understanding of business strategies in the declining phase of an industry.

The first chapter of the monograph provides the theoretical foundations for understanding declining markets. It begins with a discussion of the origins and evolution of the product and industry life cycle concepts, referencing classical approaches developed by Schumpeter and Mickwitz, as well as the adaptations proposed by the Boston Consulting Group. Various life cycle models are presented, ranging from

four-stage models with maturity and decline phases, through three-stage models, to five-stage models that include a “shakeout” phase. A key part of the chapter is the analysis of both endogenous factors (e.g., exit barriers, asset specificity, low levels of innovation) and exogenous factors (e.g., globalization, technological advancement, legal regulations, changing consumer preferences) that contribute to the onset and deepening of the decline phase. Furthermore, the chapter discusses four evolutionary industry paths – radical, progressive, creative, and intermediate – as well as the classic set of strategic management responses in this phase: from aggressive market dominance, through selective investment management (“harvesting”, “milk-ing”), to rapid market exit or niche market focus. The chapter also describes strategies of restructuring, consolidation, and leveraging intangible assets.

The second chapter is devoted to the adaptation of the classic marketing mix to the conditions of declining markets. It begins with an overview of the evolution of marketing definitions – from the logistics-based approach of 1935, through the 4P model introduced in 1985, to contemporary concepts focused on value creation and stakeholder relationship management. Each element of the marketing mix is then discussed: product – portfolio reduction to the most essential variants, packaging modifications, and the development of complementary products; price – strategies aimed at maximizing short-term margins, flexible discounting, and premium pricing for loyal customer segments; place (distribution) – optimization of sales channels, reduction in the number of intermediaries, expansion of direct and hybrid sales models, and the use of digital platforms; promotion – a shift from mass information campaigns toward loyalty programs, product sampling, and industry partnerships that enhance brand image.

The third chapter constitutes the methodological section and presents the results of an empirical study conducted among employees of fuel depots. It outlines the research objective and questions, the sample selection (235 respondents), the research tool (an online questionnaire), and the statistical analysis methods used in SPSS. The results reveal relationships between customer profiles, sales channels, promotional activities, pricing policies, and the perceived effectiveness of marketing strategies. The chapter also examines plans for product diversification, the introduction of alternative fuels, and declarations regarding market exit. This section provides empirical evidence supporting the effectiveness of the discussed strategies and identifies key determinants of marketing mix adaptation in the context of industrial decline.

The structure of the monograph guides the Reader from general theoretical considerations to a specific case study of the hard coal market in Poland, allowing for a multifaceted analysis of both market mechanisms and individual business strategies. The work is intended for both the academic community and practitioners seeking answers to the question of how to operate effectively in markets with declining potential.

The findings of the conducted research have significant practical implications. First of all, businesses may utilize the identified marketing mix adaptation strategies to optimize resources and minimize costs by focusing on the most profitable customer segments. Second of all, the adaptation of distribution channels and loyalty programs facilitates the maintenance of relationships with key clients, which is crucial in the context of declining demand. Third of all, flexible pricing policies and selective promotional activities may enhance short-term efficiency while laying the groundwork for transforming the product offering.

This monograph also opens new avenues for future research. Going forward, it would be valuable to extend the analysis by comparing different declining sectors in order to identify which industry-specific factors determine the effectiveness of marketing strategies. Additionally, qualitative studies – such as case studies or expert interviews – may deepen the understanding of managerial decision-making processes under conditions of uncertainty. Finally, the development of analytical tools in the areas of big data and artificial intelligence offers promising opportunities for dynamically monitoring and forecasting trends in declining markets, making it a compelling area for further investigation.

Chapter 1. Theoretical foundations of the declining market

1.1. Characteristics of declining markets: definitions, features, and challenges

A declining market is a specific phase in the life cycle of a product, industry, or entire economic sector characterized by a gradual decrease in demand, where companies face the challenge of maintaining profitability and competitiveness. Understanding the mechanisms governing declining markets is crucial for the effective management of business, marketing, and operational strategies under conditions of diminishing consumer interest. This chapter presents the theoretical foundations of declining markets, including their definition, characteristics, and the factors contributing to their emergence. It also discusses key management concepts associated with this stage of the market life cycle and provides a Polish case study of a declining market: the hard coal sector.

The life cycle concept originates from behavioral theories and organizational development models, assuming that organizations and their components pass through the following stages: birth, growth, maturity, and decline. This approach was adapted for business analysis by the Boston Consulting Group (BCG) in the 1950s, although its earliest applications may be traced back to the World War II period, notably in the works of Schumpeter [1939] and Mickwitz [1959]. The development of marketing and portfolio analysis methods significantly contributed to the popularization of this concept, extending its scope beyond economic entities to include public and social institutions [Gierszewska, 2000].

Gierszewska [2000] and Klepper [1997] emphasize that many economic sectors develop according to stages characteristic of the product life cycle. Kotler [1994], however, points out that within a single market cycle, multiple products fulfilling the same function and satisfying similar consumer needs may emerge. From the perspective of strategic business analysis, this phenomenon is significant because the introduction of new products may affect the demand for their substitutes, which in turn shapes the competitive structure of the market. Today, the life cycle concept is applied in the analysis of business strategies, marketing, human resource management, and the implementation of new technologies [Gierszewska, 2000].

The industry life cycle (ILC) model has served as a foundation for explaining how industries develop and how firms may appropriately adapt their strategies. The seminal work of Gort and Klepper in 1982 established the first comprehensive industry life cycle model, which has since been expanded by numerous scholars.

Their analysis of 46 industries over a span of 73 years provided empirical evidence of the cyclical nature of industry evolution, highlighting entry and exit behaviors as key factors in understanding industry dynamics [Luo and Huang, 2011]. According to the life cycle concept, the industry constitutes a crucial element of a firm's environment, shaping the conditions for its operation and growth opportunities. Its specific characteristics directly affect the intensity of competition. The industry structure also defines the rules of rivalry, determining which strategies may be effective in the long term. Consequently, industry analysis is an essential component of formulating survival and growth strategies, enabling firms to identify competitive advantages and adapt to changing market conditions [Sabol, Šander, and Fuckan, 2013].

The industry life cycle is one of the fundamental models used to analyze the development and transformation of an industry over time. This concept, widely discussed in economic literature, indicates that every industry goes through clearly defined stages: introduction, growth, maturity, and decline (Fig. 1).

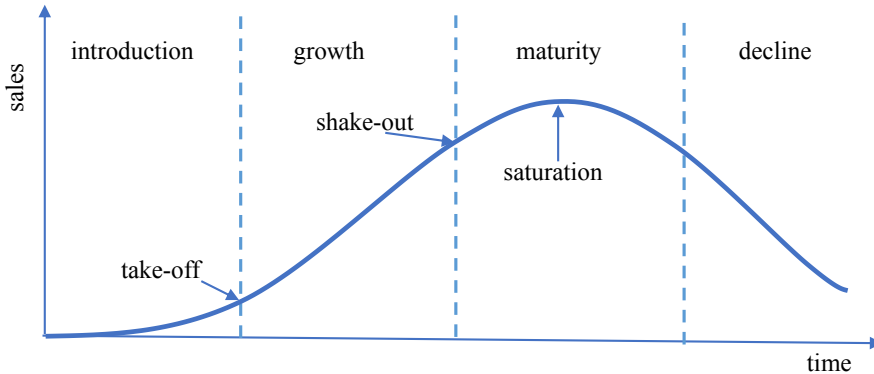


Fig. 1. Industry life cycle

Source: Zhang [2019, p. 3].

Each of these stages involves distinct challenges and opportunities, influencing firms' strategies, competitive structure, and market functioning mechanisms. Understanding these processes enables companies to better adapt to changes, forecast future trends, and compete more effectively in a dynamic economic environment. This four-stage life cycle was proposed by Porter [Viardot, 2004]. The literature, of course, offers many alternative models regarding the number of phases in a market life cycle. Sabol, Šander, and Fuckan [2013] describe a three-stage cycle that varies depending on the dynamics of process and product innovation. The primary criterion for distinguishing the phases is the variability in the intensity of innovations in products and processes, manifested in their increase or decline. The same number of stages is distinguished by Williamson [1975] and Tavassoli [2015]. A five-stage cycle is noted by J.A. Parnell

[2013] and Rothaermel [2017]. The five-stage cycle introduces a shakeout phase, characterized by intensified competition, the elimination of weaker players, and market consolidation. Shakeout occurs when the number of firms declines by at least 30% and this decline is sustained [Klepper, 1997].

According to Subramanian [2017] and McGahan [2004], the evolution of economic sectors may be classified into four distinct trajectories: radical, progressive, creative, and intermediate. Each of these paths defines the profitability boundaries for firms operating within a given sector. Meanwhile, Sabol, Šander, and Fuckan [2013] indicate that radical industry transformation occurs when its fundamental operational processes and key resources become obsolete, typically as a result of the widespread adoption of breakthrough technology. In such cases, the change happens comprehensively, although often gradually, allowing firms to maintain profitability for an extended period.

However, changes of an intermediate nature are observed much more frequently. These arise from the emergence of new market opportunities available to customers and suppliers, often as a result of access to specific information. In this type of transformation, the fundamental operational processes of the sector are threatened; however, its strategic resources – including intellectual capital, brands, patents, or specialized infrastructure – may retain their value, provided that they are used innovatively.

Creative changes are characterized by stable relationships with the market environment – customers and suppliers – while variability occurs in the assets of firms. Progressive changes, on the other hand, may be seen as a form of creative transformation in which sector participants, including customers and suppliers, tend to maintain the existing balance of power. The key distinguishing feature of progressive changes is that the sector's core resources do not lose value; on the contrary, their importance and market value may increase over time.

In determining a given phase of the industry life cycle, many factors are taken into account, including demand, technology, products, and competition, as well as production, distribution, and market exchange. In each phase, key success factors may also be identified (Table 1).

A declining market may be defined as a segment of the economy characterized by deteriorating operating conditions that gradually limit the development and operational capabilities of businesses operating within it [Sihvonen, 2010]. One of the main factors contributing to an industry's decline is globalization [Duryea, 2014; Amankwah-Amoah, 2015; Sardadvar and Reiner, 2021]. Ytterstad and Braun [2017] also point to a decline in demand and financial crises as key contributing elements. According to Koponen and Arbelius [2009], the most common environmental factors leading to declining demand include: technological advancement resulting in more advanced substitute products, a shrinking target customer group, buyers' financial difficulties, changes in consumer life-

styles, preferences and needs, rising costs of raw materials or complementary goods, limited availability of natural resources, and new legal regulations. Ashurbayev and Sharipova [2024] highlight four key drivers of this phenomenon: changes in consumer behavior, rapid technological development, globalization, and the expansion of digital platforms.

Table 1. Determinants of the sector life cycle phase

Phase	Introduction	Growth	Maturity	Decline
Demand	Limited to early adopters: high incomes, avant-garde	Rapidly growing market penetration	Mass market, repeat purchase/exchange. Knowledgeable and price-sensitive customers	Low product or process innovation
Growth rate	Moderate	High	Weak and stable	Zero or negative
Growth potential	Significant	Significant	Zero	Negative
Technology	Experimental. Competing technologies, rapid product innovations	Developing. Standardization around a dominant technology, rapid process innovations	Mature. Well-disseminated technical knowledge: pursuit of technological improvements	Declining. Low product or process innovation
Products	Low quality, wide range of features and technologies, frequent design changes	Improved design and quality, emergence of a dominant design	Commoditization trend. Attempts to differentiate through brand, quality, or bundling	Products become standardized: differentiation is difficult and unprofitable
Production and distribution	Short production runs, highly skilled labor force, specialized distribution channels	Capacity shortages, mass production, competition for distribution	Emergence of excess production capacity, production discontinuation, long production runs, fewer lines per distributor	Chronic overcapacity, reemergence of specialized distribution channels
Trade	Producers and consumers in developed countries	Exports from developed countries to the rest of the world	Production shifts to newly industrialized and then developing countries	Exports from countries with the lowest labor costs
Competition	A few firms	Entry, mergers, and exits	Shakeout, increasing price competition	Price wars, exits
Competitive structure	Variable	Stabilizing	Established leaders	Oligopolies
Industry entry	Easy	Possible	Very difficult	No interest
Key success factors	Product innovation, building a credible image of the company and product	Design for manufacturing, access to distribution, brand building, rapid product development, process innovations	Cost efficiency through capital intensity, economies of scale, and low input costs	Low overhead costs, customer selection, signaling commitment, capacity rationalization

Source: Przedworska [2023, p. 43].

Maksimovic and Phillips [2008] argue that in declining sectors, both long-term changes in demand and the number of firms operating during a given period tend to be below the median of changes observed across the broader economy. This indicates that although these industries experience a downturn in activity, the process often unfolds more gradually than in other sectors undergoing transformation. Furthermore, individual declining industries demonstrate varying intensities of restructuring processes, including business segment closures and acquisitions. These differences also translate into diverse opportunities for growth and adaptation, suggesting that not all declining sectors follow a uniform pattern of regression. Some may still exhibit potential for restructuring and development.

Not all firms in declining sectors disappear – some survive through strategic entrepreneurship [Thomas and Douglas, 2021]. According to Ashurbayev and Sharipova [2024], strategies for avoiding bankruptcy include technological innovation, revenue stream diversification, operational reorganization, and a focus on new markets. They also emphasize the importance of a customer-oriented approach, robust financial planning, and fast decision-making.

In the decline stage, cost efficiency and the ability to maintain the most stable customer base are of key importance. Successful companies operate with minimal fixed costs and are able to flexibly adjust the scale of operations to the decreasing volume of sales [Thomas and Douglas, 2021]. In practice, this means rigorous reduction of overheads, rationalization of production capacity (e.g., closing redundant lines or plants), and a strong focus on efficient production processes [Thomas and Douglas, 2021]. Selective customer portfolio management is also essential – firms should focus on established, loyal buyers with higher resistance to price increases (the so-called focus strategy). Ashurbayev and Sharipova [2024] further emphasize the necessity of operational flexibility and diversification of revenue sources – for example, expansion into new markets or introduction of additional products – in order to compensate for the shrinking of existing segments. The literature also highlights that survival in declining conditions depends on signalling market commitment to key areas (e.g., limited marketing or service support for core products), which helps maintain customer loyalty while reducing investment levels [Thomas and Douglas, 2021].

Nevertheless, in declining markets, competitive moves tend to involve divestment rather than investment [Ghemawat and Nalebuff, 1990]. According to Hagspiel et al. [2016], a firm that has the option to exit the market both before and after making an investment must decide when to invest and how much production capacity to build. A later investment typically results in higher selling prices and a larger optimal capacity. However, when the market for an innovative product is growing rapidly, firms tend to invest earlier, which leads to smaller production capacity, despite the expected increase in demand. Adkins, Azevedo,

and Paxson [2022] argue that when making decisions about market exit or technology change, it is important not only to monitor competitors but also to consider different strategic options jointly.

Firms operating in declining industries experience diminishing benefits from local conditions such as access to skilled labor, suppliers, or knowledge exchange. Consequently, to maintain their capacity for innovation, these enterprises must continuously supplement and update their knowledge resources through participation in international trade networks. For this reason, large entities in deteriorating sectors not only demonstrate a greater potential to engage in international trade but also face it as a strategic necessity [Tavassoli, 2015].

Organizations in declining markets often face resistance to change due to uncertainty. This resistance is reflected in four main factors identified as barriers for new entrants: uncertainty regarding new markets, new professional skills, new products, and uncertainty about where to find the information necessary to chart new directions. Firms that overcame the fear of uncertainty and invested in new market entries achieved better financial performance [Burpitt and Fowler, 2007]. Ytterstad and Braun [2017] also address the topic of government support, emphasizing that proactive firms tended to be more independent from external assistance.

The literature indicates that a decline in organizational performance may influence the nature of strategic decisions, including marketing choices. Research by Chng et al. [2015] shows that under deteriorating conditions, managers tend to make more extreme and risky decisions, likely due to growing concerns about the organization's future and pressure to deliver quick results. This suggests that declining performance not only limits resources but also shapes decision-makers' mindset, shifting their preferences toward actions with higher outcome variability.

In the context of declining markets, which by definition are characterized by shrinking demand, decreasing profitability, and increasing regulatory uncertainty, a paradoxical situation emerges: although the dominant behavior among firms is conservative – such as cost-cutting and market withdrawal – they are simultaneously compelled to make high-risk decisions like changing their business models, diversifying, or investing in new segments. Such actions may lead to significant variation in strategic outcomes – some companies gain advantage through flexibility and innovation, while others fail to adapt effectively to the new realities. As a result, declining markets often exhibit increasing polarization between firms that are resilient and those unable or unwilling to transform.

1.2. Management strategies in the declining phase of the market life cycle

In declining markets, characterized by falling demand, increasing competition, and decreasing profitability, firms must adjust their strategies to minimize losses, optimize resources, and identify potential market niches or opportunities for diversification.

A company operating in the declining phase should conduct a thorough analysis of selected structural factors (Table 2). These elements influence profit and sales levels and determine the degree of difficulty associated with reducing production capacity in the given sector.

These factors influence the levels of profits and sales and determine the degree of difficulty associated with reducing production capacity in the given sector.

Table 2. Structural determinants of competition in a declining sector

Determinant of competition	Impact on the organization
1	2
Demand conditions	Uncertainty – whether the demand decline will be permanent Pace and nature of the decline – a sharp decline makes it difficult to justify optimistic future forecasts. The pace accelerates when firms announce their exit from the sector earlier and as demand falls due to rising costs and possible price increases Presence of demand enclaves – firm profitability is maintained by demand from price-insensitive buyers or those with low bargaining power due to high switching costs or limited alternative suppliers Causes of demand decline – technical substitution, changing needs, demographics. Demand decline is often driven by factors beyond the control of marketing managers
Exit barriers	Fixed assets and specialization – a high degree of specialization of fixed assets leads to the creation of exit barriers Fixed exit costs – costs such as employee compensation, contractual penalties for breaking long-term agreements, hidden exit costs like decreased employee productivity and loss of some customers, as well as other costs related to the sale of the business Strategic exit barriers – interdependencies (withdrawing from a business area weakens the overall company strategy), access to financial markets (limiting trust or attractiveness of the firm to capital markets), vertical integration (exit barriers depend on whether the firm is integrated across the entire supply chain or only a part of it) Lowering exit barriers – through producing spare parts for competitors' products
Information barriers	Management-related and emotional barriers – the greater the emotional attachment of management and their involvement in a particular business area, combined with pride in their achievements and fear for their own future, the higher the exit barriers. This may result in job loss or salary reduction Governmental and social barriers – official and unofficial pressures related to preserving jobs and the impact of decisions on the local community Mechanism of disposing fixed assets – when the disposal of fixed assets occurs within the same sector, strategic decisions made by the purchasing firms may harm the rest of the sector

Table 2 cont.

<i>1</i>	<i>2</i>
Instability of rivalry	Price wars among competitors – particularly intense when the product is mass-market, fixed costs are high, firms are tied to the sector due to high exit barriers, a certain number of firms place strategic importance on maintaining their position in the sector, the relative strength of firms remaining in the sector is balanced, and firms are uncertain about their competitive strengths, leading them to attempt to change their situation Suppliers and distribution channels – the sector loses importance for suppliers, which may affect prices and service levels; meanwhile, the power of distribution channels increases, enabling them to influence final customer decisions

Source: Przedworska [2023, pp. 45–46].

The table indicates that the decline in demand may vary in nature – from gradual to abrupt – and that its causes often stem from external factors such as technological substitution or demographic changes. Exit barriers play a significant role and may arise from high asset specialization, costs associated with shutting down operations, or the company's strategic integration within the sector. There are also informational barriers, including management's emotional involvement and social or governmental pressure. Competitive instability is manifested through price wars and shifting positions of suppliers and distribution channels, which further complicate the functioning of firms in a declining market.

In the context of a contracting market, firms must make strategic decisions regarding their future operations. The literature highlights various approaches to operating within declining sectors, encompassing both strategies aimed at maintaining market position and methods for gradually withdrawing from the business.

Investment and market dominance strategies

According to Harrigan [1980], one possible strategic direction is to increase investments in order to gain a competitive advantage and strengthen the firm's position within the sector. Companies adopting this strategy aim to achieve market dominance through intensifying operational activities, increasing market share, and acquiring competitors. Such investments may include technological development, optimization of production processes, or expansion into niche markets that remain profitable.

An alternative to aggressive growth is maintaining the current level of investment until uncertainty regarding the sector clarifies [Harrigan, 1980]. This approach allows the firm to monitor market conditions and respond at an appropriate time, thereby avoiding premature decisions to either withdraw or further expand.

Selective investment management

In a situation where demand for a company's products declines unevenly across different market segments, the enterprise can adopt a strategy of selective investment reduction. This strategy involves eliminating less profitable customer groups and focusing resources on serving the most lucrative market niches [Harrigan, 1980]. Such an approach allows for cost optimization and increased operational efficiency.

"Harvest" strategy

The concept of the "harvest" strategy, described by numerous authors [Harrigan, 1980; Porter, 1996; Sabol, Šander, and Fuckan, 2013; Rothaermel, 2017], involves gradually withdrawing from a sector while maximizing short-term profits. Companies limit new investments, minimize operating costs, and strive to use existing resources as efficiently as possible. This approach allows for rapid capital recovery, which may then be allocated to the development of new business areas.

Market withdrawal

The rapid withdrawal strategy is one of the most radical actions companies take when facing the unprofitability of continued operations [Harrigan, 1980; Porter, 1996; Rothaermel, 2017]. In this case, the firm aims to quickly dispose of its assets, sell its shares, or liquidate operations in a way that minimizes financial losses. F.T. Rothaermel [2017] notes that withdrawal may take the form of bankruptcy or controlled liquidation. In some cases, companies also try to reduce exit barriers by selling technology or producing spare parts for competitors.

Niche market focus strategy

One effective way to continue operations in a declining sector is the niche strategy. Both Porter [1996] and Sabol, Šander, and Fuckan [2013] indicate that companies may avoid intense competition by concentrating on narrow market segments that remain profitable. This strategy is especially popular among small and medium-sized enterprises but may also be employed by large corporations within their strategic business units. Operating in niche markets allows companies to achieve stable profits and avoid price wars.

Restructuring and efficiency improvement

Hofer [1980] proposes the "turnaround strategy," which focuses on restructuring operations to improve performance. This approach may include cost optimization, technology modernization, workforce reduction, or redesigning the product offering in response to changing customer needs.

Consolidation and acquisition of competitors

Strategies for operating in declining markets may be either aggressive – focusing on dominance and acquisitions – or defensive – aimed at minimizing losses and exiting the sector. The choice of the optimal strategy depends on many factors, such as the level of demand, exit barriers, the company's competitive position, and resource availability. Companies may decide to continue operations through niche specialization, restructuring, or acquisitions, or they may aim to maximize short-term profits and exit the market in the most financially advantageous way.

Firms operating in declining industries face specific conditions that may require implementing more advanced or unconventional strategies. In such cases, instead of relying on commonly used solutions, organizations may opt for actions that go beyond traditional frameworks, adapting to the challenges posed by the market. Such tailored strategies might include modifications of existing products or the development of entirely new innovations that respond to changing consumer needs and preferences.

Corporate strategies in the context of technological disruptions

Disruption as a situation in which a company must change its strategy to survive environmental changes [Kilkki et al., 2018]. In the context of firms operating in industries affected by disruption, Thomas and Douglas [2021] propose three main survival strategies. The first strategy is **reconfiguring external networks**, which involves establishing new partnerships and business relationships. This allows companies to survive in rapidly changing environments. In an era of digitalization and fast technological shifts, the ability to adapt to new external arrangements, including acquiring new strategic alliances, is crucial to maintaining market position. The second strategy is **the leveraging of intangible assets**, such as brands, patents, specialized knowledge, and other intellectual resources. These assets may provide a competitive advantage during difficult periods. Firms that possess unique resources may compete more effectively, even if their traditional business model is threatened by technological disruption. The third strategy is **balancing traditional and innovative products**. Companies that maintain their traditional offerings while simultaneously exploring new markets and introducing innovative solutions may diversify their revenue streams. This balance enables survival amid changing consumer preferences and increased competition driven by new technologies.

Challenges of international competition and its impact on innovation

Tavassoli [2015] emphasizes that international trade – both in the form of imports and exports – may act as a factor stimulating innovation, especially for companies operating in declining sectors. For firms with adaptive capabilities

and stronger incentives to participate in international exchange, such activities become crucial for surviving in the market. International trade opens up opportunities to introduce innovations and adjust offerings to new trends and market demands, which is an important element of survival strategies in declining industries.

Companies with the appropriate resources and competencies are better able to respond to changes by leveraging global markets to implement new technologies, acquire knowledge, and introduce innovations, which may contribute to their long-term competitiveness.

Strategies to respond to foreign competition

When companies in declining sectors face threats from international competitors, they must adopt an appropriate response strategy. Burpitt and Fowler [2007] identify five possible approaches, which depend on the level of threat and the company's readiness for change:

1. **No change (status quo)** – firms that do not respond to competitive threats may continue operating as usual, maintaining their current customer base without taking any action against international competition. This strategy may be chosen if the company is unable to compete under new market conditions.
2. **Improving efficiency within the existing strategy** – companies may focus on operational improvements and process optimization, such as cost reduction, skills development, or better utilization of existing resources. Enhancing efficiency within the current strategy helps minimize risk and better prepare the company to face international competition.
3. **Modifying existing products for current markets** – another strategy involves introducing minor innovations or improvements to existing products to maintain competitiveness in the domestic market and retain customer loyalty.
4. **Modifying existing products for new and current markets** – expanding into new markets by identifying new customer segments and launching adapted versions of existing products helps increase the customer base and reduce the impact of foreign competition.
5. **Developing entirely new products for new and existing markets** – this is the most ambitious strategy, requiring innovation and the development of new product capabilities. Companies that choose to create entirely new products may gain an edge in international markets and diversify their revenue streams, thereby lowering the risks associated with declining traditional sectors.

Porter [1996] highlights the risks arising from a company's inadequate alignment of its strategy with the structure of a sector in its decline phase. One of the key mistakes organizations make is underestimating this stage of the industry life cycle – often due to excessive optimism about the possibility of revival or a strong emotional attachment to their existing business model. This leads to an underestimation of the threat posed by substitute products. Moreover,

companies in this phase often engage in destructive price competition or implement a “harvest” strategy despite lacking significant competitive advantages. Therefore, businesses operating in declining markets should carefully tailor their strategic actions – including marketing tools – in order to minimize risk and effectively manage the processes of exit or restructuring.

In the context of strategies used by companies in declining markets, organizations have a wide range of approaches at their disposal to help maintain competitiveness and adapt to changing conditions. Depending on the market situation, firms may choose to intensify investments to strengthen their position (e.g., through market dominance), maintain their current level of investment until uncertainty clears, or selectively reduce investment in less profitable areas. Alternatively, they may adopt a “harvest” strategy or opt for a rapid market exit. Companies may also focus their efforts on niche markets, implement turnaround strategies to reverse poor performance, or sell off profitable operations. In response to international competition, organizations may take steps to improve efficiency, modify existing products, or develop new innovations. Under more challenging market conditions, they may also pursue more advanced strategies, such as developing new products or adapting existing ones, in order to maintain their market position. All these strategies represent a toolbox that companies may draw upon, depending on the specific challenges posed by a declining market.

1.3. The hard coal market in Poland as an example of a declining market

In studies on the subject, research focuses on many declining sectors. Among the declining industries are: the printing industry [Hagspiel et al., 2016; Ytterstad and Braun, 2017; Thomas and Douglas, 2021], the furniture industry [Burpitt and Fowler, 2007], and the photography industry [Hagspiel et al., 2016]. In the Polish market, an example of a declining industry is the coal market, which is the subject of the author’s research.

Hard coal has historically played a key role in shaping the Polish economy, serving as a foundation for many industrial sectors and influencing national energy policy. After Poland’s political and economic transformation in 1989 associated with the transition to a market economy, the mining industry underwent extensive restructuring. This process affected both the sector’s efficiency and the overall economic condition of the country, including the labor market linked to mining [Janikowska, 2023; Pełowska and Olczak, 2024].

The mining sector has long been considered one of the pillars of Polish industry, and Poland consistently is ranked among the top coal producers in the European Union [Ciołek et al., 2022; Pełowska and Olczak, 2024]. Derski

[2024] points out that coal is the primary raw material for energy production in Poland, accounting for around 63% of total electricity generation in 2023, with hard coal playing a key role in this. The scale of dependence on this resource is evidenced by the fact that hard coal constitutes a significant part of the national energy balance, underlining its importance for Poland's energy security and independence [Ranosz, Bluszcz and Kowal, 2020; Prochon, Piotrowski and Kępnia, 2024]. However, despite its longstanding dominance in the energy sector, the coal industry is in a phase of inevitable decline, driven by increasing pressure for decarbonization and the need to comply with European Union environmental regulations [Sierpińska-Sawicz and Bąk, 2016; Szlugaj and Galos, 2021]. Although coal still remains a significant element of Poland's energy mix, numerous studies highlight the necessity of transitioning to cleaner technologies in order to reduce negative environmental impacts, particularly in terms of sulfur and nitrogen oxide emissions [Kryza et al., 2010; Manowska and Rybak, 2018].

In the context of Europe's evolving energy landscape, the challenges of the coal sector must also be considered from a broader socio-political perspective, in which trade unions and public opinion play a significant role in shaping mining policy [Kaczmarek, 2022; Janikowska, 2023]. Poland, grappling with its dependence on hard coal amid the global shift toward renewable energy sources and declining domestic demand for this resource, faces an uncertain future for the sector. Nevertheless, due to its strong ties to the economy and energy infrastructure, it is likely that hard coal will remain a significant element of national energy policy in the coming decades [Kryza et al., 2010; Szlugaj and Galos, 2021].

The historical role of hard coal in the Polish economy highlights both its fundamental importance and the challenges associated with the need to transition to a more sustainable energy model. The continued reliance on this resource presents major difficulties for the sector, but at the same time offers opportunities for innovation in energy production and environmental impact management. Nonetheless, the coal sector is facing numerous challenges, such as financial difficulties and rising operational costs, leading to mergers, mine closures, and workforce reductions [Jonek-Kowalska, 2015]. In response to these challenges, the Polish government has implemented various measures, including investments in clean coal technologies, aimed at balancing economic stability with the demands of sustainable development [Gawlik, 2017; Sobczyk et al., 2017].

The global hard coal market is inevitably heading toward decline, as confirmed by macroeconomic trends as well as political and social factors influencing the sector. As Sanzillo [2015] notes, the coal industry is characterized by stagnation and decreasing profitability, even in countries that have historically been heavily dependent on it. The decline of this sector results from increasingly strict environmental regulations, decreasing public acceptance, and growing competition from renewable energy sources [Kubiczek and Przedworska, 2024].

The reduction of investments in new mines and the withdrawal of financial institutions from supporting mining further accelerates this process, making it irreversible [Brzozowska, 2018; Fatica and Panzica, 2021; Liu et al., 2022].

Similar trends are observed in Europe, where hard coal mining is perceived as a sector of diminishing economic importance. Jonek-Kowalska [2018] points out that the main factors contributing to the gradual phasing out of this industry are its negative environmental impact and threats to human health and life. In Poland, this process is particularly evident – Bukowski, Śniegocki, and Wetmańska [2018] emphasize that the modernization of mining technologies and the development of so-called clean coal technologies are not sufficient to reverse the trend. A key argument supporting the inevitable decline of hard coal's significance in Poland is its lack of profitability, as demonstrated by the situation of Polska Grupa Górnicza (Polish Mining Group, PGG), the largest coal producer in Europe. The problems related to the profitability of extraction and maintaining the financial stability of entities operating in the sector mean that even state support is not enough to stop the process of mine closures [Siedlecka, Śniegocki and Wetmańska, 2017].

The decline of hard coal mining in Poland is also confirmed by economic data. Jonek-Kowalska and Turek [2016] demonstrated that hard coal sales have been steadily decreasing since 1998, and the instability of the operating profit margin after 2000 serves as a direct indicator of the sector's deteriorating condition. Even periodic increases have not been able to reverse the long-term trend, as emphasized by Bukowski et al. [2015], who pointed out that the contribution of hard coal mining to Poland's economic growth has been virtually zero since 2005. Additionally, the social costs associated with the functioning of the industry – including expenditures on restructuring, subsidies, and support for miners leaving the profession – are increasingly burdening the state budget, making the sector not only economically but also politically more difficult to sustain.

Table 3 presents endogenous and exogenous factors influencing the gradual phase-out of the coal sector, taking into account both internal industry conditions and external regulatory, economic, and social pressures accelerating its decline.

The decline process of the coal sector results from both endogenous and exogenous factors that mutually reinforce each other. Among the internal causes, high extraction costs, low operational efficiency, outdated infrastructure, and limited flexibility in adapting to changing market conditions dominate. Additionally, the sector is characterized by a difficult financial situation, low innovation, and problems with employment and work organization.

Table 3. Endogenous and exogenous causes of the Polish hard coal sector entering the decline phase

Endogenous causes	Exogenous causes
1	2
– the product causes emissions of dust and gases into the atmosphere, which has led to the classification of the mining sector for gradual phase-out in accordance with Poland's Energy Policy until 2040, the European Green Deal, and the Agreement between the Social Partners and the Government of the Republic of Poland – high sensitivity to extraordinary conditions, e.g., the COVID-19 pandemic – a production process characterized by adverse environmental impact and significant inertia in adjusting production capacity to coal demand – the location of some reserves in protective pillars and under highly urbanized areas (high costs of accessing and exploiting these), with a considerable number of resources in seams less than 1.5 meters thick, whose extraction requires expensive mining systems – low utilization rate of machinery potential – machine and equipment operating time in many mines does not exceed 40% of the available face time – the necessity to modernize some mines with rich deposits and commercially attractive coal, requiring high expenditure on work in stone workings – unfavorable employment structure and limited workforce mobility, including internal mobility; mismatch between employment levels and wages relative to mining performance and market situation – low optimization of work systems, resulting in insufficient crew working time efficiency – increasingly long underground transport routes, multi-hour face start-ups after days off (also negatively affecting rock mass stability, potentially causing roadway constriction) – low share of motivational elements in remuneration systems and lack of linkage between wage increases and labor productivity; low labor efficiency and excessive fragmentation of pay components – disorganized legal status of some properties, possession of hard-to-sell fixed tangible assets, and significant fragmentation of assets intended for management (large number of properties with small and medium usable areas)	– high dependence of the domestic coal market on the situation in global coal markets and other energy raw materials – periodic surpluses of hard coal on global markets – high sector vulnerability to regression and economic fluctuations – seasonality of sales in the industrial segment and individual consumers, and lack of instruments to mitigate the negative effects of seasonality – stabilization of coal selling prices on global energy coal markets below the expectations of domestic producers, which may significantly strengthen the competitiveness of imported coal amid falling oil prices and a low USD/PLN exchange rate; additionally, there are periods of sharp declines in hard coal prices on the world market – competition from coal importers, especially from the eastern direction; increasing imports of coal from previously marginal sources for the Polish market such as Australia, South Africa, the USA, Mozambique, Ukraine, and Brazil – increasing competitiveness of other energy carriers on the domestic market, as well as on European electricity markets – dependence of mining operations on the provisions of Local Spatial Development Plans, resulting in difficult negotiations and excessively prolonged processes for accessing new deposits – lack of legal solutions securing strategic hard coal deposits against unfavorable surface development changes, which consequently raises the costs of accessing these deposits or even prevents access altogether – lengthy administrative procedures related to obtaining licenses – acquiring environmental decisions and proceedings before local government authorities – strong capital position of key coal buyers (professional power generation) – high dependence of coal dispatch on a single carrier and temporary difficulties in securing smooth railway rolling stock availability – market consolidation among suppliers for hard coal mining, increasing their bargaining power – continuation of the European Union's strict climate policy towards coal, leading to increased production costs and coal consumption, thereby reducing the competitiveness of this raw material on the market

Table 3 cont.

1	2
– low innovation level in the production, processing, and marketing of hard coal, especially given its one-sided use (coal is primarily perceived as a raw material for electricity and heat production by combustion); resistance from trade unions to restructuring – low-cost flexibility due to a high share of fixed costs (in some mines exceeding 80% of production costs) and a high minimum production cost level associated with mining at increasing depths, causing low effectiveness of delayed anti-crisis actions; lack of radical restructuring efforts to reduce production costs – difficult economic and financial situation characterized by high losses, lack of funds for ongoing operations, low or absent financial liquidity, and high liabilities – relatively high unit production costs compared to coal producers on global markets; systematically rising unit production costs of hard coal and declining price competitiveness of Polish coal	– anti-coal policy of the European Union limiting coal use in energy generation – protests by local communities against mining activities – tightening environmental standards, including the implementation of anti-smog resolutions – promotion and support of renewable energy sources – technical condition of professional power plants and their planned phase-out from the energy system; implementation of energy-saving technological solutions in power and combined heat and power plants – increasing burdens on electricity generation from hard coal resulting from the European Union's climate policy – the EU ETS system and potential changes in the system that may significantly affect the financial situation of the hard coal mining sector – lack of possibility to obtain external financing

Source: Przedworska [2023, pp. 184-186].

Exogenous factors include global and regional market changes, growing competition from other energy carriers, as well as tightening environmental and climate regulations. A significant aspect is also the reduction of external financing due to the ESG policies of financial institutions and the European Union's climate policy. As a result, the coal sector faces increasing economic and political pressure that inevitably leads to its phase-out.

The final confirmation of the decline of the hard coal mining sector in Poland is reflected in political decisions. According to Poland's Energy Policy until 2040 and the objectives of the European Green Deal, this sector has been designated for gradual phase-out, which is also reflected in the Social Agreement between the Polish government and industry representatives [*Program for the hard coal mining sector in Poland adopted by the Council of Ministers with amendments in 2022*, 2022]. The planned mine closures and programs for the transformation of mining regions demonstrate that this strategy is no longer subject to change, and the future of Polish energy will not be based on coal. All these factors clearly indicate that both globally and in Poland, the hard coal market is irreversibly coming to an end. This process will require intensive efforts towards a just energy transition to minimize the social and economic impacts of this inevitable trend.

This was confirmed by the author's expert study conducted between May and June 2022 with the participation of 20 experts recognized for their scientific and practical achievements in the field of hard coal mining in Poland. Among the participants were representatives from universities, government officials, managers, market analysts, journalists, and a representative of an environmental organization. The experts indicated that the main factor influencing the decline of the hard coal market is international climate policy, although they also emphasized the importance of economic factors (e.g., rising extraction costs, competition from renewable energy sources, limited access to financing) and social factors (including anti-smog resolutions and declining interest in the mining profession). Statistical analysis revealed divergent opinions regarding the key group of factors, suggesting that the decline process results from complex and interrelated conditions [Przedworska, 2023].

The decline of the coal sector in Poland is the result of the cumulative impact of economic, political, and social factors, as confirmed by both expert analyses and national energy strategies. Although this process is inevitable, it requires comprehensive actions aimed at a just transition to mitigate its effects on the economy and mining communities. Understanding the processes occurring in declining markets is crucial both for enterprises and for the entire economic ecosystem. Proper management during this phase may enable companies to effectively adapt to changes, identify niche business opportunities, or smoothly transition into new areas of activity.

Chapter 2. Marketing mix – concept and its adaptation in a declining market

2.1. Evolution of the marketing concept and marketing mix

The marketing mix, as one of the fundamental concepts of marketing, has served as the foundation of companies' market strategies for decades. A particularly demanding challenge for marketing management arises when operating in a declining market, where businesses face decreasing demand, increasing cost pressures, and limited investment opportunities. Under such conditions, the marketing mix requires specific adaptations to enable companies to maximize short-term profits, retain loyal customer segments, and effectively manage brand image during the decline phase.

To better understand how the concept of the marketing mix has evolved over time and how it may be tailored to specific market conditions, it is useful to first examine the definitions of marketing provided by the American Marketing Association (AMA), which reflect the shifting perspectives in this field (Table 4).

Table 4. Changes in marketing definitions presented by the American Marketing Association (AMA)

Date	Definition	Key aspects
1	2	3
1935*	Marketing is the performance of business activities that direct the flow of goods and services from producers to consumers	The first definition of marketing focuses on the flow of products and services from the producer to the consumer. This is a very narrow approach, reducing marketing to a logistical and sales function, without taking into account elements such as customer needs, relationship building, or value
1985	Marketing is the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives	This definition presents a more complex approach – marketing is seen as the process of planning and executing activities related to product, price, promotion, and distribution. The key element becomes exchange, which aims to satisfy the goals of both the organization and individuals. This broadens the perspective – marketing is no longer just about the flow of goods, but also about creating value and taking into account the interests of various stakeholders
2004	Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders	This definition introduces two key concepts: value and customer relationship management. Marketing is defined as an organizational function that encompasses the processes of delivering value to customers and managing relationships with them. The influence of relationship marketing, which began to dominate in the 1990s, is evident here. Additionally, the introduction of the concept of stakeholders means that marketing is no longer focused solely on customers, but also on other groups connected to the organization

Table 4 cont.

1	2	3
2007	Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large	This definition expands the scope of marketing to include business partners and society as a whole. Marketing is no longer just an organizational function, but also a set of institutions and processes. There is an emphasis on the social value of marketing, which aligns with growing social awareness and the development of the concept of sustainable development
2017	Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large	The 2017 definition is almost identical to the one from 2007, which suggests a stabilization in the approach to marketing. The key elements are value, processes, institutions, consumers, partners, and society. It is clear that marketing is understood as a broad activity that goes beyond traditional transactional models

* This definition was developed in 1935 by the National Association of Marketing Teachers and officially adopted by the AMA upon its establishment in 1937.

Source: Own elaboration based on: Gundlach and Wilkie [2009]; Curmi [2023]; [www 1].

The evolution of the definition of marketing highlights significant changes in the approach to this discipline over the years. Starting in 1935, marketing was primarily seen as an activity focused on the distribution of products – representing a narrow, transactional model. Over time, this perspective shifted to include value creation and customer relationships. Since 2004, marketing has increasingly been defined in terms of long-term relationships and value creation for a broad range of stakeholders, including not only customers but also partners and society at large. The role of marketing within organizations has also evolved. In 1935, it was viewed mainly as a business function, whereas by 2007, it had become an integral part of organizational processes, encompassing a wide spectrum of institutions and activities. The shift toward value and relationships in 2004 also marked a transition from a short-term, sales-driven approach to a long-term strategic orientation. This evolution reflects changing market trends and challenges – moving from an initial emphasis on distribution to a more complex approach centered on value management and relationship building. Today, these aspects are crucial not only for companies and customers but also for broader stakeholder groups, including society as a whole. These shifts in how marketing is defined provide a deeper understanding of the marketing mix concept, which serves as a strategic tool for effectively managing value and relationships with various stakeholders within a marketing strategy.

The concept of the marketing mix plays a crucial role in shaping companies' marketing strategies. The term first appeared in the early 1940s in the work of Culliton, who emphasized the need to combine various elements to create an effective market strategy. One of the first formal definitions of the marketing mix was formulated by McCarthy in 1964, who defined it as “marketing mix is

a combination of all of the factors at the command of a marketing manager to satisfy the target market” [McCarthy, 1964, s. 35]. In this view, the marketing mix represents a set of tools that enable effective influence on consumers and the adaptation of company activities to the specific characteristics of the market [Khan et al., 2013; Darmawan and Grenier, 2021].

The initial concepts of the marketing mix encompassed a broad range of elements. N.H. Borden proposed a framework that included, among others, product planning, packaging, pricing policy, branding, distribution channels, personal selling, physical handling, sales promotion, advertising, and marketing research [Borden, 1969]. He was also the first to introduce the term “marketing mix” [Goi, 2009]. E.J. McCarthy later simplified this framework into the classic 4Ps model, consisting of Product, Price, Place, and Promotion. This model was subsequently popularized by Philip Kotler and became the foundation for the development of marketing strategies in the decades that followed [Fouzia, 2019].

The contemporary approach to the marketing mix goes beyond the traditional 4Ps, incorporating external factors that influence an organization’s strategy. These include consumer behavior, market trends, competition, and the rapidly changing business environment. As a result, managing and adapting the individual elements of the marketing mix to meet market demands has become a key responsibility for marketing managers.

The classic concept of the marketing mix, also known as the 4Ps model, has served as the foundation of marketing management for decades. However, in response to a changing market environment, rising consumer expectations, and global social and environmental challenges, each component of the marketing mix has undergone significant evolution – from a product- and transaction-centered perspective toward one that emphasizes relationships, sustainability, and customer experience. Analyzing the works of Dominici [2009], Kotler [1994], and Penc [2001], it may be concluded that:

Product, once primarily defined as the actual market offering – a set of physical attributes such as quality, technical specifications, brand, or packaging – as evolved from communicating interchangeable benefits and the illusion of uniqueness to a customer-centric approach. Today, the concept of the product encompasses not only its functional features but also the entire user experience over time—from purchase, through usage, to the post-sale phase. Intangible values such as ethics, transparency, and additional social benefits are playing an increasingly important role.

Price has also been redefined. Traditionally understood as the monetary value a customer must pay for a product or service, it is now viewed in a broader context – as the total sum of all costs incurred by the buyer, including not only financial outlays but also the time and effort invested in the purchasing and usage process. The contemporary approach to pricing also reflects a trend toward

engaging in dialogue with consumers, employing subsidy strategies, and implementing mechanisms that account for the so-called “ecological truth”, for example, by incorporating environmental costs into the final price.

In terms of **distribution**, the classical approach focused on technical and logistical activities aimed at physically making the product available to the customer. Over time, however, the emphasis shifted from hierarchical producer-wholesaler-retailer relationships toward partnership-based collaboration models and direct relationships with consumers, supported by new technologies. Today, distribution is understood as the entirety of activities necessary to facilitate the exchange process, including both physical logistics and digital channels of communication and sales.

Finally, **promotion**, once understood simply as a set of activities aimed at informing customers about a product and persuading them to buy it, has undergone a significant transformation. From a mechanical model based on manipulation and one-way communication, it has evolved toward dialogic communication. Today, promotion includes personalized forms of contact, trust-building, advisory services, spontaneous actions, and the implementation of socially responsible communication. What matters is not only what a company says, but how and with what intention it communicates with its stakeholders.

In summary, the contemporary marketing mix is not merely a toolkit of operational decisions but a dynamic system of value exchange that requires companies to take a reflective approach to each of its elements, considering customer experiences, relationships, and sustainable development.

In recent years, the traditional structure of marketing elements has evolved to include additional components, especially in service industries. The direction of this evolution is illustrated in Table 5.

Table 5. Concepts inspired by the 4P marketing mix formula

No.	Author/authors	Marketing instruments	Concept description
1	2	3	4
4P	McCarthy (1960)	4P = Product Price Promotion Place	The concept organizes and groups the 12 elements of N. Borden’s marketing mix. The marketing mix is seen as a mnemonic tool used for market analysis and defining marketing strategy. However, this strategy must align with the company’s overall strategy and take into account its managerial indicators. Its function is to satisfy market needs while simultaneously maximizing efficiency
5P	Judd (1987)	4P+ People	The added P, which stands for People, translates into relationships with customers. This is an important lever of action, primarily effective in service markets and the B2B sector, but it is gradually gaining popularity across all other sectors as well
6P	Kotler (1986)	4P+ Public relations Politics	In 1984, Philip Kotler introduced two additional Ps alongside the classic 4P model: political power and public opinion shaping

Table 5 cont.

1	2	3	4
7P	Booms and Bitner (1980)	4P+ People Physical evidence Process	The 7P marketing mix by Bitner and Booms is known as the extended marketing mix or the 7P of service marketing
8P	Scientists from National Taiwan University (1999)	4P+ Precision Payment systems Personalization Push and Pull	Marketing must increase the precision of target segment selection and position itself within digital contexts through database management systems. Payment systems need to be secure and user-friendly, while personalization involves the ability to create a flexible interface. Meanwhile, push and pull refer to the balance between proactive communication strategies and user-initiated, on-demand communication
	Godin (2008)	4P+ Personnel Process Physical evidence Partnership	Seth Godin recognized that partnership with the customer is essential and goes beyond the concept of a contract. This partnership should be mutually beneficial for both parties
	Silva and Yapa (2009)	Product, Price, Place Promotion and Education Process Productivity and Quality People Physical evidence	Silva and Yapa stated that in a competitive business environment, organizations focus their strategies not only on acquiring customers but also on retaining them as long as possible and encouraging increased purchase frequency by developing lasting relationships. Attracting new customers is an intermediate step in the marketing process. Strengthening relationships and transforming them into loyal customers, as well as serving customers, should also be part of marketing
9P	Godin (2008)	4P+ Personnel Process Physical evidence Partnership Permission	Permission marketing, introduced by Seth Godin, marks the beginning of a new kind of relationship marketing and communication. The goal of this permission is to encourage the internet user to establish a relationship with the brand or company
10P	Godin (2008)	4P+ Personnel Process Physical evidence Partnership Permission „Purple Cow”	Applying the concept of the “Purple Cow” in a company’s marketing mix communication will make the product or service stand out in the market. This will allow the product or service to differentiate itself from other competing products and services
15P	Baumgartner (1991)	4P+ People Politics Public relations Probe Partition Prioritize Position Profit Plan Performance Positive- implementations	The most comprehensive marketing mix concept highlights both the importance of the human factor and relationships, as well as achieving profits through the implementation of established plans

Source: Przedworska [2023, pp. 50–52].

The concept of the marketing mix, initiated by McCarthy as the 4P model (Product, Price, Place, Promotion), laid the foundation of modern marketing by organizing company activities around offering and communicating value. Over time, with increasing market complexity, the growing importance of services, digitalization, and changing consumer expectations, this model has been progressively expanded – adding new elements such as People, Process, Physical evidence, as well as education, personalization, and payment systems. These extensions aimed to better reflect the actual process of exchange and value creation across different contexts – from service-oriented to digital environments. Contemporary models, such as the 9P or 15P frameworks, demonstrate the growing need to integrate strategic, relational, and technological elements while also addressing ethical and environmental considerations. The evolution of the marketing mix reveals a paradigm shift from a transactional approach toward relational marketing focused on long-term collaboration and customer experience. Increasingly, there is discussion of the need for individualization – not as an additional “P”, but as a characteristic that binds all elements of the mix into an integrated, flexible, and responsible marketing strategy.

Table 6 presents selected models and concepts of marketing tools that serve as alternatives or extensions to the classical approach. The comparison illustrates how various authors enrich traditional marketing tools with new dimensions – strategic, relational, digital, or focused on customer value and experience.

Table 6. Development of new marketing mix instrument concepts

Author/authors and marketing tools	Concept description
1	2
Marketing strategic level	
Ohmae (1982) 3C: – customers – competitors – corporation	The reason for the emergence of the concept was the lack of strategic elements in the marketing mix. The 3C concept defines and shapes strategic marketing
Kotler (1984) The marketing mix should include: – customers – environmental variables – competitive variables Additional 2Ps to the classic 4P concept: – public power – public opinion formulation	The origin of the concept was the belief that external and uncontrollable environmental factors are essential elements of marketing strategy programs

Table 6 cont.

<i>1</i>	<i>2</i>
Robins (1991) 4C: – customers – competitors – capabilities – company	According to the author of the concept, the traditional 4P marketing model is too internally focused. The 4C concept reflects an external orientation of marketing tools
Vignalli and Davies (1994) MIXMAP technique	The classic marketing mix concept is limited to internal and non-strategic issues. Marketing planning will contribute to an organization's success only if it is closely linked to the overall strategy. The MIXMAP technique enables precise mapping of marketing variables, ensuring consistency between strategy and tactics
Doyle (1994) – product – price – place – promotion – services – staff	While the 4Ps dominate marketing activities, most marketing practitioners would add two more elements to this mix – service and personnel – in order to achieve marketing goals
Yudelso (1999) New 4P: product → performance price → penalty promotion → perceptions place → process	According to the author, the classic 4Ps are not the appropriate marketing tools for the 21st century. The development of marketing over the past 40 years has required a new, flexible approach. The new 4Ps are based on exchange activities
Schultz (2001) Marketing triad – marketer – employee – customer	Today's markets are customer-oriented. The classic 4Ps hold less significance today, although they were appropriate at the time they were formulated. The new concept assumes control by the end consumer. The new marketing orientation should be defined by networked systems. The new marketing must be based on a marketing triad
Kalyanam and McIntyre (2002) 4P + P ² + C ² + S ³ P ² : personalization & privacy C ² : customer service & community S ³ : Site Sales and Promotions & Security	Kalyanam and McIntyre (2002) incorporate the 4Ps into the 4P + P ² + C ² + S ³ model within a broader operational context, which – through a three-dimensional representation – may provide a more comprehensive taxonomy of the elements comprising the marketing mix
Hyman (2004) 8D – design – demand – didactics – distribution – duty – direction – diary – dialectic	Eight questions along with their associated mnemonics: 1. <i>Design</i> : how may your organization translate consumer needs and preferences into a product (i.e., a combination of goods/services/ideas) that consumers willingly purchase, use, and dispose of with minimal environmental stress? 2. <i>Demand</i> : what motivates customers to engage in exchange with your organization? 3. <i>Didactics</i> : how may your organization inform all stakeholders, especially target customers, about your products and other activities? 4. <i>Distribution</i> : how may your organization deliver its products to consumers? 5. <i>Duty</i> : What are the rights and responsibilities of all interested parties in relation to your organization's activities? 6. <i>Direction</i> : what is the history of your organization and its products? 7. <i>Diary</i> : what is your organization's current culture, vision, and mission? 8. <i>Dialectic</i> : what marketing strategy should your organization adopt?

Table 6 cont.

1	2
Dash, Kiefer and Paul (2021) 4B: – brand identity – brand image – brand integrity – brand interaction	Marketing 4.0, as a relatively new theoretical model, is currently under-researched, particularly in terms of empirical validation. The authors specifically dedicated this concept to the real estate industry, which has undergone significant disruptions due to a combination of the global recession and rapid technological advancements
Customer orientation	
Bruner II (1989) 4C: – concept mix – cost mix – channel mix – communication mix	The concept was developed based on the 4Ps and meets four criteria: the terms are broad enough to fit most exchange situations; it is pedagogically appealing; it suggests activities familiar to practitioners; and it reflects a customer-oriented approach. The marketing mix variables do not exclude each other; in fact, they often overlap – for example, communication takes place through various channels
Lauterborn (1990) 4C: – customer needs – convenience – cost (customer's) – communication	The 4C marketing mix takes into account customer needs, the cost of goods and services for customers, convenience, and communication. The 4C marketing mix focuses on the buyer and is market-based, with customer needs at its core. It is essential to establish full contact with customers in order to fully understand their requirements
Bennett (1997) 5V: – value – viability – variety – volume – virtue	The classic 4P formula, due to its focus on internal variables, is not a sufficient foundation for marketing activities. Customers are often inclined to purchase products from a direction opposite to that suggested by traditional marketing. The proposed 5V model introduces criteria for customer orientation
Shimizu (2003) 7Cs Compass model: – corporation and competitor – commodity – cost – channel – communication – consumer – circumstances	Customer-related factors may be explained using the first letter of each of the four directions in the compass model: N = Needs, W = Wants, S = Security, E = Education (of consumers). In addition to the customer, there are various uncontrollable external environmental factors that surround businesses. These may also be explained using the first letter of each compass direction: N = National and International (conditions), W = Weather, S = Social and Cultural, E = Economic (circumstances)
Hence, Ogilvy and Martha (2010) product → experience place → everywhere price → exchange promotion → evangelism	The concept is based on the assumption that customers are becoming increasingly sophisticated day by day. What proves effective today in our rapidly changing environment may fail to deliver the desired level of satisfaction tomorrow. Consumers know what they want and rarely make decisions in haste – especially if they consistently fail to receive the expected satisfaction, despite the marketer's efforts. This growing consumer sophistication, combined with intensified competition, has rendered the traditional 4P model insufficient. Modern marketing requires more flexible, customer-centered approaches that go beyond product, price, place, and promotion to truly meet evolving expectations

Table 6 cont.

1	2
Ettenson, Crurado and Knowles (2013) SAVE: product → solution place → access price → value promotion → education	The classic 4P concept serves consumer product sellers and has little to offer the B2B world. The authors view the 4P as a driver for marketing and sales teams that emphasizes technology and product quality as the primary differentiating factors, in contrast to offering solutions to industrial customers who are more rational in their decision-making
Internet marketing	
Mosley-Matchett (1997) 5W who – target audience/ /market what – content when – terms and updates where – searchability why – unique sales and deals	According to Mosley-Matchett, those who succeed online base their presence on a website developed according to the 5Ws of the marketing mix: Who – target audience/market, What – content, When – timing and updates, Where – searchability, Why – unique selling propositions and opportunities
Constantinides (2002) 4S: Web Marketing-Mix – scope: strategy and objectives – site: web experience – synergy: integration – system: technology, technical requirements and web site administration	The 4S structure defines the main elements of e-commerce design in a simple and practical way. It provides a framework for creating comprehensive strategic and marketing plans for the rapidly changing online environment. The Web Marketing Mix identifies four strategic, operational, organizational, and critical factors of online marketing: Scope = Strategic issues (the range and objectives of the marketing effort), Site = Operational issues (the website itself and its functionality), Synergy = Integration with physical processes (how online and offline activities work together), System = Technical issues (technology infrastructure supporting the e-commerce platform)
Pastore and Vernuccio (2004) 3C + I – community – connectivity – content – interface	The authors proposed the “3C + I” model: Community, Connectivity, Content, and Interface, in which the 4P model is integrated with the online environment. Here, contextualization means adapting to a different environment – that is, the online context
Pradelli and Verona (2006) 3C – content – community – commerce	The concept dedicated to e-commerce includes three key elements: – Content (website and platform) – Community (interaction platform and relational opportunities) – Commerce (including the 4Ps: product, price, place, and promotion)
Farmer (2011) 4C: – connection – conversation – credibility – creativity	The concept is dedicated to small businesses Connection – may come from referrals, links, business cards collected at past events, Facebook, etc. Conversation – may take place via social media, workshops, seminars, and more. Credibility – do what you say; be consistent; don’t exaggerate Creativity – present what you do in a different way to attract people’s attention; use strong visuals; focus on benefits, not just features

Source: Przedworska [2023, pp. 52–56].

The analysis of the presented concepts demonstrates that for many researchers the classic 4P model has lost its universality as the primary marketing tool in the context of the modern economy. More complex models are proposed in its place, which take into account both customer needs and the changing market environment. Examples such as the 4C, SAVE, and 4B models indicate a shift in focus from internal company actions to customer experience, values, and relationships. Meanwhile, internet-based concepts like 4S or 3C+I integrate marketing with technology and the digital reality, emphasizing the importance of aligning online strategies with organizational goals. The diversity of approaches confirms that effective strategic marketing requires flexibility and adaptability. Modern marketing tools not only reflect changes in the environment but also shape new standards of market thinking. In managerial practice, this means the necessity to apply more holistic and contextual marketing models that support decision-making processes and enable effective competitive advantage building in a dynamic environment.

2.2. The specifics of marketing in declining markets

Companies operating in declining markets face a range of challenges that significantly impact their marketing decisions. These constraints not only complicate the implementation of traditional marketing mix principles but also force adaptations of operational models to new market realities.

One of the most pressing challenges in a declining market is the systematic **decrease in demand**. Customers gradually move away from products associated with outdated technology, negative environmental impact, or a lack of modern features. The shrinking customer base limits production scaling opportunities, leading to an increase in per-unit marketing and distribution costs [Desmet and Parente, 2010]. In such situation, market segmentation becomes a crucial tool enabling companies to adapt to the changing market environment. As noted by Ying and Idrakisyah [2024], precise identification of consumer groups allows for optimizing marketing efforts and better tailoring the offer to customer expectations, which may help mitigate the adverse effects of declining demand. Additionally, segmentation plays an important role in reducing entry barriers and aligning the company's strategy with the specific characteristics of the declining market.

An important aspect of managing declining demand is product availability, which directly impacts distribution effectiveness. As noted by Li, Chen, and Chu [2010], product availability results from the efficiency of order management and logistics systems, and its level is determined by the inventory held by both the seller and the buyer. Stock shortages may lead to revenue loss through order

cancellations, while excessive inventory generates additional storage and distribution costs. Properly balancing inventory levels and optimizing distribution routes are key tools in minimizing logistics costs, which is a crucial adaptive factor for companies operating in declining markets.

Another challenge associated with falling demand is the need for effective inventory management. As Lazear [2012] points out, in conditions of decreasing demand, companies often struggle with excessive inventory, which forces them to make strategic decisions regarding pricing policies and promotional mechanisms to stimulate sales. Poor inventory management may further deteriorate profitability, making it essential to implement flexible strategies tailored to the changing demand.

As sales volumes decline, **cost pressure** increases. The contemporary business environment is characterized by rising marketing expenses alongside decreasing costs of production and overall management. This cost structure creates pressure from stakeholders – particularly shareholders – for more efficient resource utilization and the reallocation of corporate assets to maximize return on investment [Tudose and Alexa, 2017]. In this context, marketing faces growing pressure to justify its value to the organization. Marketing departments are expected not only to effectively support the achievement of the company's strategic goals but also to provide measurable, convincing evidence that implemented marketing strategies truly contribute to increasing the firm's value and generate benefits for shareholders. Consequently, marketing managers are increasingly required to demonstrate the economic efficiency of their activities and to justify their impact on the organization's financial results [Weber, 2002; Mukosa and Mweemba, 2024].

A key strategy for alleviating cost pressure is marketing automation. This enables the streamlining of operations and the generation of additional revenue despite budget constraints. Successful integration of marketing automation systems may significantly reduce operational costs while simultaneously enhancing revenue-generating capabilities. Consequently, companies facing strong cost pressures increasingly invest in technology-based marketing solutions to achieve the dual benefits of cost savings and improved efficiency [Keens and Barker, 2009]. Therefore, understanding cost pressure in marketing requires a multifaceted approach, including the analysis of competitive pressure, strategic cost management, and effective use of analytics.

Declining markets are generally unattractive to investors, resulting in limited access to capital and thus **investment constraints**. Companies are reluctant to invest in product development, expansion of distribution channels, or promotional campaigns, knowing that the payback period may be too long relative to the short planning horizon [Porter, 1980]. Investing in marketing during market decline poses significant challenges, primarily due to financial limitations that

affect company behavior and decision-making processes. Financial constraints restrict access to capital, thereby hindering potential investments in marketing and other critical areas.

First, companies facing financial constraints often exhibit increased investment sensitivity to cash flow. Ghosh and Dutta [2021] explain that this sensitivity is a critical measure for understanding how firms make investment decisions when capital is limited. Similarly, Xu et al. [2020] argue that financial development plays a key role, noting that lower levels of financial development correlate with heightened sensitivity of investments to cash flow, which in turn restricts firms' marketing investments.

Moreover, the impact of financial constraints is particularly pronounced in the area of intangible investments, which include marketing activities. Mishra and Ewing [2020] emphasize that financial constraints significantly affect firms' ability to invest in intangible assets, which are crucial for future sales performance. Their findings suggest that financial constraints lead to suboptimal marketing investment strategies, especially in environments where future returns are uncertain. This negatively impacts firms' efforts to maintain or increase market share in declining market scenarios.

Regulatory factors also play a significant role, especially in certain markets – such as fossil fuels, tobacco products [Nowak and Nowak, 2016; Zdrojewicz et al., 2017], or industrial chemicals [PIPC, 2020] – where increasingly stringent regulations are being introduced. Legal restrictions may concern both the product itself and the forms of promotion, significantly limiting the flexibility of the marketing mix. Research by Koziol and Ząbek [2017] confirmed that strict legal regulations reduce the flexibility of the marketing mix, affecting companies' product and promotional strategies. This is particularly important in declining markets.

In the case of solid fuels, regulatory efforts increasingly focus on reducing dependence on coal and other solid fuels due to their harmful impact on air quality and public health. Burning solid fuels is a major contributor to indoor air pollution, which is associated with various health problems, including respiratory diseases [Bassani et al., 2010; Guercio, Doutsis and Exley, 2022; Jiang et al., 2023]. In response to these threats, legal measures are being introduced to promote the transition to cleaner energy sources, including both tightened emission regulations and incentives for adopting alternative fuels. These actions contribute to the gradual decline in solid fuel use and stimulate innovation in the energy sector [Koval et al., 2021].

In this context, the level of harmonization of regulations within the European Union takes on particular importance, as it directly impacts the coal sector, especially in the areas of hard coal mining and its use as an energy resource. EU regulations cover a wide range of issues, including environmental protection –

particularly concerning the reduction of CO₂ emissions – and rules governing internal and external trade [Antonowicz et al., 2023]. The Community’s legal framework establishes uniform standards aimed at integrating the climate and energy policies of member states, resulting in an increasingly restrictive regulatory environment for the coal sector [Szczerbowski, 2024]. Regulatory harmonization forces companies to comply with common norms, which often entails investing in low-emission technologies and transforming business models toward more sustainable solutions [Michalik and Zieliński, 2024]. Thus, regulatory actions at both national and EU levels jointly create conditions conducive to moving away from fossil fuels and accelerate the process of energy transition.

Declining markets pose a particular challenge for companies’ marketing strategies, requiring adaptation to changing market conditions and decreasing demand. The primary goal of the marketing mix in this phase of the market life cycle is to maximize short-term profits – before the market ceases to be profitable. These actions include reducing promotion and distribution costs, simplifying the product offering, and raising prices in segments with low price elasticity. However, as Zhou, Chan, and Chow [2013] note, companies often focus on market share as a key objective because it correlates with profitability. While profit maximization may seem a priority, excessive focus on short-term results may lead to overlooking broader market dynamics that affect the long-term viability of the business.

In this context, an essential element of production management is the development of an optimal plan that considers the availability of raw materials and the volatility of market prices. As Pankratov [2022] points out, product prices depend on their market supply, and the introduction of new batches may influence their formation. Therefore, when making production decisions, it is crucial to consider market reactions, which allows for effective price strategy management and profit maximization in dynamically changing conditions.

Marketing activities in declining markets also involve searching for under-served markets, which, according to Slater and Narver [1998], hold potential for organizational growth and renewal. In the context of a shrinking market, maintaining a niche becomes a key challenge for companies, enabling them to survive and continue to grow despite unfavorable circumstances. The literature highlights various strategies that may support this process. One fundamental approach is the systematic analysis of the environment and market niches, allowing companies to identify and focus on under-served segments. Hamlin, Knight, and Cuthbert [2016] emphasize that niche marketing may be an effective defensive strategy, limiting competition by precisely tailoring offerings to specialized markets and making conscious decisions regarding their service.

Such an approach often requires companies to implement innovations and adapt their offerings to the specific needs of selected segments. This aligns with the conclusions of Moroz [2022], who indicates that during periods of economic recession, standard operational strategies must be modified in order for companies to maintain profitability and competitiveness.

In declining markets, brand image management becomes essential for maintaining customer loyalty and preserving market share. Even if the declining market is no longer strategically important, companies cannot afford to abandon it in an uncontrolled manner. Therefore, managing brand image becomes a key objective, for example, through responsible product phase-outs [Kumar, 2003; Kader and Hossain, 2020], maintaining high service quality, ensuring service availability, or transparent communication [Zeithaml, Bitner, and Gremler, 2010].

2.3. Adaptation of the 4P elements in declining market conditions

As the market enters the decline phase, companies must adapt the classical elements of the marketing mix – product, price, promotion, and distribution – to the changing conditions. The primary goal becomes maximizing profitability amid declining sales volumes and increasing cost pressure. Kotler [1965] and Doyle [1976] emphasize that marketing strategy should be adjusted according to the changing stages of the product life cycle. As a product progresses through its life cycle, modifications in the marketing mix are required, which shifts the relative importance of each element and leads to a new configuration of the mix. Scheuing [1969], in turn, proposes assigning specific strategies to individual life cycle stages, referring to them as life cycle marketing strategies. However, Greenley [1984] identifies two main challenges: first, the difficulty in clearly determining the current stage of a product's life cycle, and second, the limited applicability of using the same strategies across different products, even if they are in the same phase. Table 7 presents typical actions taken with regard to each element of the marketing mix during the decline phase of the product life cycle.

Table 7. Marketing mix strategies in declining markets

Marketing mix tools	Actions
Product	– elimination of products with a weak market position – reduction of assortment variety – occurrence of uneven quality of offered products
Price	– price reduction – use of the “milking” strategy (product milking strategy)
Distribution	– reducing the number of links in distribution channels – withdrawing channels that do not meet profitability expectations – closing sales and distribution points – introducing new products and distribution channels – applying a selective distribution strategy
Promotion	– limiting promotion to the essential minimum – diversifying promotional activities – building purchase motivation among customers

Source: Author’s own work based on: Harrigan [1980, p. 602]; Berman [1996, p. 341]; Bosiacki and Sikora [1997, p. 82]; Grzesiowski [2001, p. 221].

The following sections of the subchapter will provide a detailed discussion of selected changes occurring in each element of the marketing mix, taking into account their significance and function in the context of a declining market.

2.3.1. Product portfolio management: reductions, niches, new directions

In a declining market, where overall demand is steadily decreasing, rationalizing the brand portfolio becomes particularly important as a means to maintain profitability and manage limited resources effectively. Under such conditions, maintaining numerous weak and unprofitable brands not only generates unnecessary costs, but also increases operational complexity and distracts managers from activities that could genuinely strengthen the company’s position in the final stages of the market life cycle.

To maximize profits and better serve customers, companies should systematically rationalize their brand portfolios by eliminating those that are unprofitable or underperforming. The problem of **brand proliferation** – maintaining too many low-yield brands – leads to hidden costs, operational inefficiencies, and management difficulties. Research by Kumar [2003] shows that 80–90% of a corporation’s profits typically come from less than 20% of its brands. Nevertheless, many organizations are reluctant to discontinue brands due to internal resistance, managerial sentiment, or fear of losing loyal customers. Kumar proposes a four-step rationalization process that includes a portfolio audit, selecting brands to retain, a thoughtful phase-out of brands marked for discontinuation, and investment in the development of strong brands. This approach helps free up resources and focus efforts on strengthening the brands with the greatest market potential, while minimizing the risk of cannibalization and improving the company’s strategic effectiveness.

In the literature, the importance of the “life extension” strategy (life extension/ market stretching) is emphasized as a tool that enables companies to maintain sales and profit growth despite market maturity. Levitt [1965] identifies four key approaches to market stretching: intensifying product usage by existing consumers, diversifying ways of using the product, acquiring new users, and seeking alternative uses of the core material. Crucial in this process is early planning of actions, which allows for the creation of a thoughtful, long-term marketing policy instead of reactive and random activities. Especially important is the proper sequencing of introduced innovations – the wrong order may permanently limit the product’s further market potential. Although forecasting market development directions and competitors’ behavior involves risks, lack of forecasting usually results in losing the ability to effectively respond to changing conditions.

However, the general tendency in a declining market is that product innovations are often limited to a minimum – consisting only of cosmetic changes (e.g., new packaging, rebranding) that do not require significant investments. Increasing importance is also given to the quality of after-sales service and product servicing, especially when consumers expect long-term availability of spare parts or technical support [Kotler and Keller, 2016].

A solution for companies in a declining market may be **product diversification**, which becomes not only a development opportunity but even a strategic necessity. Enterprises operating under such conditions must face declining demand, increasing cost pressures, and intensifying substitution competition. Maintaining the current level of revenues and profitability becomes increasingly difficult, so companies seek new sources of value – both through introducing new products and exploring new markets. In this context, diversification may serve as a mechanism enabling survival and transformation of the business model, allowing better utilization of existing resources and competencies [Oladimeji and Udosen, 2019; Fatyandri et al., 2023].

A key moderating factor in the relationship between diversification strategy and company performance is the institutional environment of the home country. According to the assumptions of the institution-based view (IBV), an approach emphasizing the importance of institutions (both formal and informal) in shaping firms’ strategies and competitive advantage, formal and informal institutions shape the context in which companies make strategic decisions [Benito-Osorio, Ángel Guerras-Martín, and Ángel Zuñiga-Vicente, 2012]. In countries with weaker institutions, diversification strategy may yield positive effects, which may not be confirmed in the context of countries with strong institutions [Wiersema and Bowen, 2008].

Diversification strategies are also strongly influenced by industry globalization and foreign competition. Wiersema and Bowen [2008] point out that globalization – understood, among other things, as the growth of global trade volume and the intensification of import competition – is a significant factor shaping international diversification strategies. Firms operating in more internationalized industries are more likely to engage in foreign expansion; however, this relationship is weakened by a high level of product diversification. Companies with a broad product portfolio may face resource constraints – both financial and managerial – which make it difficult to pursue product and geographic expansion simultaneously. This means there is a kind of strategic trade-off between intensifying presence in foreign markets and expanding the product offering [Wiersema and Bowen, 2008]. On the other hand, research by Delios and Beamish [1999] on a sample of Japanese firms sheds new light on the relationship between geographic scope and firm performance. Their analysis indicates that geographic expansion itself may positively impact financial performance, regardless of a firm's own resources. At the same time, international operations may contribute to building competitive advantages by, for example, acquiring knowledge about new markets, developing adaptive capabilities, or better utilizing existing resources in different market contexts. Especially important here is the ability to transfer and replicate resources, such as know-how, technologies, or brands, into new product or geographic segments. The ability to effectively leverage these resources determines the success of diversification strategies and may decide their effectiveness both in product and geographic dimensions.

In the face of growing competition and increasing management complexity, firms increasingly revise their diversification strategies, seeking more specialized and profitable areas of activity. In this context, one key direction of adaptation is focusing on **market niches** that offer higher profitability [Dodd Parrish, Cassill, and Oxenham, 2004]. Niches arise as a result of changing conditions. Whether they emerge organically or are created by the firm, an entrepreneurial approach is necessary [Trzmielak, 2003]. Rust, Zeithaml, and Lemon [2004] emphasize that brand success depends on their ability to precisely address the needs and preferences of specific, often narrow, customer segments.

In the era of globalization and increasing competition, niche marketing becomes an interesting approach, enabling companies to focus on specific market segments with unique characteristics. Razak [2024] links the concept of niche marketing with the Blue Ocean Strategy, which involves creating new markets and untapped niches, thereby avoiding intense competition in the “red ocean”. Market niches are defined as segments where consumers have homogeneous needs and characteristics that are not fully satisfied by the general market offering. Niche marketing adopts the philosophy of being a “big fish in a small pond”, aiming for a leadership position in a limited but meaningful segment.

Offering unique products or services that meet the specific needs of the niche market is the foundation of success. Uniqueness may manifest in special features, innovative design, or a distinct approach to creating added value. It is also important to identify and fill gaps in the market.

Jarvis and Goodman [2005] concluded that niche brands have higher loyalty. Mannering et al. [1991] emphasize that brand loyalty is not just about repeat purchases. The key is the continuity of purchasing the same brand regardless of changes in price, quality, or other factors. This provides the possibility of maintaining a certain level of sales, which is important in a shrinking market.

Niches evolve, as noted by Ytterstad and Braun [2017]. Changes may result from factors beyond the organizations' control, as well as from proactive actions taken by them. External causes include demographic and regulatory changes, while internal causes encompass technological progress. Changes in a niche may be divided into those affecting its size and those shaping its structure. The size of the niche refers to its capacity to accommodate a certain number of entities, whereas the shape of the niche concerns the types of goods and services produced within it. A decrease in niche size leads to reduced activity, while a change in shape influences the type of business conducted. These changes are driven by shifts in consumer demand or the introduction of new technologies.

2.3.2. Price: flexibility in the face of declining demand

Declining markets, characterized by shrinking demand and increased competitive pressure, pose a particular challenge for companies' pricing strategies. In declining markets, a reduction in production volume leads to higher average unit costs, especially in sectors benefiting from economies of scale. Higher costs encourage pressure to reduce inventory, which under conditions of limited demand results in price decreases. Prices in such markets become more susceptible to fluctuations, particularly when offered products are highly standardized or when competition intensifies [Singh and Ru, 2019]. In practice, it becomes important to find a balance between maintaining margins and the need to attract a shrinking customer base. Increasingly, companies turn to flexible or dynamic pricing models (e.g., loyalty discounts), especially in B2B markets [Anderson and Simester, 2010].

An example of this is **non-standard discounting forms** that go beyond classic price cuts and serve both to increase sales and to achieve strategic goals. Hinterhuber and Liozu [2018] note that one solution is nonlinear pricing, which varies depending on purchase volume, for example, discounts for customers holding multiple products with a bank or paired offers on airline routes. Another approach involves gradually phased-out discounts that motivate quick purchases

by limiting the promotion duration. Bonus bundles, such as offering 25% extra product for free, are also effective and are perceived as more attractive than equivalent percentage discounts. Equally important is the way the discount is presented, for example, “pay 60%” is more effective than “40% off”, despite having the same value. Cross-market discounts (e.g., at a gas station when purchasing in a convenience store) increase sales and customer value. Participation discounts, tied to customer activity (e.g., referrals, minimum purchases), may bring greater satisfaction than unconditional discounts. Finally, selectively offering free services (e.g., free parking for electric cars at a hotel) enhances the company’s image and supports pricing policies without sacrificing revenue from other sources. These examples may be adapted by firms in declining markets to improve profitability.

In a declining market, downward price pressure is strongly felt. One of the strategies used to counteract this pressure is the **introduction of price-subsidizing promotions**. A study by Pierce et al. [2005] on the tobacco industry suggests that such promotions, including free sample distribution, special price offers, and discount coupons, may effectively increase sales volume and build customer loyalty. Although the tobacco market context is specific due to the nature of the product, the mechanism of price subsidization to stimulate demand may be adapted to other declining markets.

Another approach is **the “cash cow” strategy** known from the BCG matrix, which involves maintaining relatively high prices while simultaneously limiting investments in the product and marketing. The goal of this strategy is to maximize cash flows from the existing customer base, accepting a gradual decline in market share [Whitehead, 2015]. In declining markets, pricing decisions play a key role in maintaining the offer’s attractiveness and maximizing margins. Firms often use a price increase strategy (*milking strategy*) targeting loyal customers who are less price-sensitive and value continuous access to the product [Harrigan, 1988].

Instead of competing solely on price, companies may focus on maintaining relationships with key customers by offering them additional services, loyalty programs, or complementary products. Loyal customers often show a willingness to pay a premium for products and services that closely match their preferences and experiences. Studies such as those conducted by Bolton, Kannan, and Bramlett [2000] have demonstrated that loyalty programs may significantly increase customer retention when they effectively communicate perceived value and provide benefits aligned with customer preferences. Johnson and Scott [2019] suggest that brand loyalty is an important factor determining price acceptance, assuming that customers attached to a brand are more willing to pay higher prices for preferred goods due to strong emotional and psychological bonds with the brand. However, Umashankar, Bhagwat, and Kumar [2017] argue

that behaviorally loyal customers have unique definitions of value stemming from their historical interactions with the company, resulting in expectations of added value, often in the form of lower prices, that less loyal customers typically do not demand. Therefore, a value-based pricing strategy must consider these behavioral aspects to tailor prices and offers to the perceptions and expectations of loyal customers.

On the other hand, some companies may adopt aggressive **price cuts** to quickly increase market share in a shrinking market or to liquidate inventory. Under such conditions, the temptation to reduce prices to maintain sales volume may lead to destructive price wars that erode margins and threaten the profitability of the entire industry. Hermann [2015] emphasizes that during a crisis, price reductions often fail to deliver the expected sales growth because the entire demand curve shifts downward, and competitors typically respond with their own price cuts, nullifying potential gains from market share acquisition. Faced with a shrinking market, companies face the challenge of adjusting their pricing strategies to maintain profitability. Nagle and Müller [2018] note that in such situations, lowering prices may be beneficial to maintain capacity utilization, especially when the value of the offered product is strongly correlated with full resource utilization. However, it is crucial that such price reductions do not become the expected pricing standard when demand recovers.

Companies operating in declining markets often decide to focus on niche markets. This topic is extensively discussed by Guiltinan [1999]. The choice of an appropriate pricing strategy in niche markets depends on the characteristics of the niche as well as the desired and anticipated behaviors of buyers. In particular, it is crucial to recognize the level of product innovativeness and the readiness of customers to modify their existing habits to gain new user benefits. In niches dominated by so-called innovators – consumers who show high openness to new solutions – the relative advantage of the offered product may play a more significant role than its compatibility with existing solutions. In such cases, applying a high-price strategy (*skim pricing*) is justified, which may be especially effective when both the perceived advantage and the product's alignment with user expectations are high.

A different mechanism operates in market niches where the offered product does not have a significant level of innovativeness, and the primary goal of the company is to stimulate initial purchases and build loyalty by encouraging repeat transactions. In this context, a penetration pricing strategy may be more appropriate because lower prices reduce the entry barrier, favoring faster product adoption and intensifying its diffusion within target groups [Guiltinan, 1999]. Additionally, it should be emphasized that under conditions of intense competition, where the product does not demonstrate a clear innovative advantage, pricing tactics typical for low relative market advantage prevail. In such circum-

stances, the penetration pricing strategy is again recommended to quickly build market share and neutralize competitors' advantages through attractive pricing. Therefore, the choice of pricing strategy should be based on a thorough analysis of the value offered to the customer, the level of perceived risk by buyers, and the product's competitive position relative to substitutes available on the market [Guiltinan, 1999].

Companies in declining markets may also decide on a strategic withdrawal from less profitable market segments or choose to focus on building value through innovation and additional services, which may justify maintaining higher prices even amid falling demand. The key is to understand that price is only one element of the value offered to the customer, and in conditions of market recession, maintaining margins and avoiding price wars is fundamentally important for the survival and long-term profitability of the company [Hermann, 2015].

In declining markets, where falling demand and rising costs require flexibility in operations, companies employ varied pricing strategies – from dynamic discounts and subsidized promotions to “cash cow” strategies or niche activities – to maintain margins and customer loyalty. It becomes crucial to adapt pricing policies to customer expectations and market specifics while simultaneously avoiding price wars and seeking added value.

2.3.3. Distribution: maximizing the reach with minimal costs

Distribution in a declining market requires companies to be particularly flexible and able to adapt to changing market conditions. Decreasing demand and a limited number of trading partners influence the necessity to redefine existing sales channels. Maintaining distribution efficiency becomes a challenge, especially in the context of declining profitability and rising operating costs. In a declining market, companies must skillfully navigate their distribution channels to maintain visibility, customer engagement, and revenue streams.

In the decline phase, it is typical to gradually eliminate less important participants in the distribution channel and analyze the consequences of removing selected products from the offer [Rosenbloom, 2013]. Effective product management at this stage requires cooperation with distribution partners, as they are responsible for delivering the product to the end customer. Their involvement is crucial, among others, in implementing product differentiation strategies, positioning, assortment modification, or targeting the offer to a lower or higher market segment.

Reducing the number of participants in the distribution channel is a significant element of modern distribution management strategies. Increasingly, these strategies reflect a tendency to reduce the number of partners, facilities, or stages

in the supply chain. Anđelković and Radosavljević [2020] argue that the goal of such an approach is to minimize costs arising from the presence of multiple intermediaries, which becomes particularly important in the face of dynamic market changes and growing pressure on operational efficiency.

X. Xu [2009], in his research, demonstrates that **indirect channels** may exhibit greater price flexibility, allowing the manufacturer to achieve higher margins compared to direct channels. Additionally, studies by Jeuland and Shugan [1983] indicate that in distribution channels lacking co-ownership and coordination, the manufacturer, acting in their own interest, tends to raise product prices while simultaneously lowering product quality. An example of lack of coordination in a channel is the phenomenon of double marginalization, which occurs when successive channel members set product prices aiming to maximize their individual profits. Such a self-interested pricing approach leads to an increase in the final product price compared to a situation where the parties were vertically integrated [Xu, 2009; Palmatier et al., 2020].

Shortening distribution channels is often associated with choosing **direct channels**, characterized by the absence of intermediaries between the manufacturer and customers [Smolnik, 2012]. The choice of direct channels is primarily justified by cost savings and the possibility of establishing direct contact with the market. Eliminating “costly” intermediaries allows manufacturers to potentially lower prices or increase margins [Anđelković and Radosavljević, 2020]. Moreover, shorter distribution channels foster better customer relationships and achieve a higher degree of customer loyalty and trust [Reinartz and Kumar, 2002]. Direct contact also enables a better understanding of customer needs and faster responses to their expectations [Gummesson, 2002]. Anđelković and Radosavljević [2020] add that typical features of short distribution channels also include trust-based relationships, a high level of coordination, and efficient information exchange among partners. This facilitates problem identification and management, as well as detecting potential errors and risky situations. Importantly, in the case of longer distribution channels, problems such as lack of channel control and liquidity issues are more likely.

It should be noted, however, that the decision to shorten distribution channels is not without challenges and often requires consideration of trade-offs, such as a potential increase in inventory holding costs for the manufacturer in exchange for reducing intermediary-related costs. In many cases, an optimal solution may be the adoption of a **hybrid approach** that combines both direct and indirect channels to leverage the advantages of each strategy [Anđelković and Radosavljević, 2020].

Hamlin, Knight, and Cuthbert [2016] show that active environmental scanning and market research to identify emerging niche markets allows companies to effectively adapt their strategies and maintain customer loyalty. Moreover,

they utilize both vertical and horizontal cooperative networks to optimize their distribution channels, thereby shortening the value chain and strengthening connections with suppliers and customers. Toften and Hammervoll [2010] add that niche firms should prioritize cultivating long-term, trustworthy relationships with selected business clients, thereby increasing their reach and influence within specific market segments.

In a contracting market, companies are increasingly seeking alternative forms of collaboration that enable them to restructure operations, improve operational efficiency, share costs, and minimize risk. One of the key strategic directions in this area involves forming strategic alliances, which may take various forms tailored to the specifics of the declining market. The selected models of cooperation and the motives for their implementation are presented below.

Table 8. Selected cooperation models and motives for their use in the declining market

Form of cooperation	Definition	Application in a declining market
Joint venture	A form of cooperation in which two or more companies jointly create a new legal entity to achieve a specific operational goal	It enables the rationalization of resources, cost reduction, and avoidance of complete shutdown of operations in less profitable areas
Strategic cooperation agreements	Multilateral contractual agreements that enable partners to make joint strategic decisions and share responsibility for outcomes	They provide operational flexibility and enable joint management of risks associated with declining demand and market instability
Cooperative association	An association of smaller enterprises that jointly manage resources and carry out market activities to achieve economies of scale	It allows for the consolidation of distribution activities and increases operational efficiency in the face of limited resources
Licensing	The transfer by one company of the right to use technology, brand, or production process in exchange for a licensing fee	It enables generating revenue from owned assets without the need to utilize them independently

Source: Author's own work based on: Todeva and Knoke [2005, pp. 124–125].

The application of the above cooperation models may support companies operating in declining markets in maintaining competitiveness, optimizing distribution channels, and reducing costs while simultaneously limiting operational risk.

An integral element of the “place” instrument in the marketing mix concept is distribution logistics. Marketing and logistics are interconnected because both participate in the process of adjusting the structure and volume of supply to meet the needs and expectations of customers – marketing stimulates demand, while logistics satisfies it through efficient distribution processes [Barcik and Jakubiec, 2013]. The goal of distribution logistics is to deliver the right products, in the right place and time, in the appropriate quantity and quality, while minimizing logistics costs. Managing logistics costs is a broad issue, and its fundamental

objective is to limit these costs while maintaining the quality of operations undertaken. In this context, especially in declining markets, the optimization of distribution processes gains particular importance, allowing for the rational use of resources and increasing operational efficiency. This is essential to maintain the profitability and competitiveness of products in the final stages of their life cycle, when cost pressures and declining demand require especially well-thought-out logistical actions [Miłosz, 2017].

Distribution in a declining market requires companies to be flexible and to quickly adapt to changing conditions, including decreasing demand and increasing pressure for cost efficiency. As a result, businesses often decide to reduce the number of intermediaries in their distribution channels, which allows for cost reduction and improved customer relationships. However, such a decision may involve challenges that require careful consideration of trade-offs, such as the need to increase inventory levels or to adopt a hybrid approach combining both direct and indirect channels.

2.3.4. Promotion: building loyalty and brand image in changing conditions

In the face of a dynamically changing and highly competitive market environment, companies increasingly face the challenge of maintaining their products in declining markets. Under such conditions, promotional strategies become particularly important, playing a crucial role in sustaining consumer interest and stimulating demand. Promotion serves as an effective tool not only for increasing brand awareness and the visibility of a company's offerings but also for building competitive advantage. Well-designed promotional activities may significantly contribute to extending the product life cycle, maintaining its market position, and thereby ensuring the sustainability of business models operating in a changing economic environment [Keswani and Khedlekar, 2024].

In declining markets, maintaining customer loyalty is crucial for companies that want to survive economic challenges and sustain their market presence. Brands must adopt specific strategies to nurture long-lasting relationships with their customers – a process that focuses on customer satisfaction, trust, and effective communication. When demand decreases and opportunities to acquire new customers become limited, maintaining relationships with existing customers becomes a key factor stabilizing a company's performance. Customer loyalty manifests itself through initiating and sustaining relationships, frequent purchases, acceptance of higher prices, product recommendations, and resistance to competitors' actions. These behaviors may significantly extend the product life cycle in a declining market. In such an environment, loyal customers become not

only a source of predictable revenue but also a strategic asset that allows the company to remain competitive despite unfavorable market trends. For this reason, Desta and Amantie [2024] emphasize that managers should place special focus on nurturing customer relationships, effective communication, and prompt response to customer needs and feedback. Specifically, maintaining customer loyalty through effective Customer Relationship Management (CRM) strategies is essential for the long-term success of organizations operating in declining markets [Agarwal et al., 2024]. An important element of CRM strategies are loyalty programs designed to strengthen bonds with customers by offering benefits tailored to their purchasing behaviors. According to Chan and Ho [2017], companies implement such initiatives to encourage more frequent purchases and increase customers' share of wallet, which fosters long-term engagement and brand loyalty.

Social media platforms are gaining increasing importance as essential tools in promotional activities, particularly in the context of building customer relationships and strengthening brand image. One of the key advantages of their use in industries facing decline is the potential for enabling direct, two-way communication between brands and consumers. Tripathi [2018] emphasizes that thanks to these platforms, companies may engage with their audiences in real time, significantly increasing customer engagement and fostering loyalty while keeping financial investments relatively low. Moreover, marketing efforts on social media have proven highly effective in refreshing brand image and reinforcing customer loyalty. Research indicates that companies employing integrated and well-planned social media strategies demonstrate a greater ability to build a positive brand perception and increase consumer trust [Ahmad, Musa, and Harun, 2016; Li, Larimo, and Leonidou, 2021]. Additionally, social media marketing exerts both direct and indirect influence, through user engagement and interaction with the brand, on consumers' purchase intentions [Lestari, Kurniasari, and Susanto, 2023].

In the context of declining markets, where traditional marketing efforts often prove insufficient, rebranding strategies are gaining increasing importance as a means to restore product appeal and extend their life cycles. An excellent example of successful rebranding in a declining sector is the fountain pen industry, where traditional products have been revitalized by repositioning them as luxury goods [Li and Fan, 2023]. This transformation was achieved through well-thought-out marketing strategies emphasizing elements of nostalgia and prestige. This case demonstrates that even long-established products operating in shrinking market segments may reverse negative sales trends if subjected to an effective rebranding process. Rebranding has become a crucial strategy for companies operating in declining industries seeking to revive their market presence and customer perception. The rebranding process involves a comprehensive strategy that may include various approaches such as repositioning, renaming, redesign-

ing, and reintroducing products or services to the market [Miller, Merrilees, and Yakimova, 2014; Marcelinus et al., 2023]. This multifaceted approach is particularly useful for companies aiming to regain lost sales and relevance in competitive markets. Rebranding in declining sectors should not be viewed merely as a cosmetic image change but as a key element of survival and growth strategy. It requires a holistic approach involving precise planning and effective execution, including active stakeholder engagement, carefully designed communication, and thorough analysis of the brand's market positioning. As numerous case studies show, companies that consciously and comprehensively implement rebranding may not only restore their competitiveness but also rebuild their market identity in a way that resonates with contemporary consumers and addresses their evolving expectations [Miller, Merrilees, and Yakimova, 2014; Marques et al., 2020; Li and Fan, 2023].

In conditions typical of declining markets – characterized by shrinking demand, intensified competition, and increasing pressure on cost efficiency – well-considered and integrated marketing efforts gain particular importance. This subsection presents key marketing tools and strategies used in this phase of the product life cycle, focusing on their role in sustaining consumer interest, building loyalty, and restoring product appeal. It highlights, among others, the importance of promotional activities, effective Customer Relationship Management (CRM), the use of social media, and rebranding as strategies to extend product life and strengthen the brand's competitive position. The actions undertaken by companies not only increase consumer engagement but may also serve as a source of sustainable strategic advantage, enabling firms to maintain profitability and market presence despite unfavorable external conditions.

Chapter 3. Empirical research results – analysis of the marketing mix in the coal market in Poland

3.1. Research methodology

The aim of the empirical research was to identify and analyze the marketing strategies employed by companies engaged in coal sales within the context of a declining market. The study had a quantitative and explanatory nature. The starting point was a systematic review of literature in marketing and management, which enabled the formulation of the research problem and the development of the research instrument – a survey questionnaire.

The main research question focused on how coal suppliers adapt their marketing strategies to changing market, regulatory, and environmental conditions. The study covered 235 coal suppliers from various regions of Poland, and data analysis was conducted using the SPSS software. A set of hypotheses was tested, including relationships between customer profiles and sales channels, the impact of promotional activities on marketing effectiveness, and the connection between diversification plans and the introduction of eco-friendly products.

The scope of the study included an analysis of the marketing mix (product, price, distribution, promotion), and the sample selection was purposive. Data were collected in March and April 2025 using an online survey directed at representatives of coal suppliers.

Detailed methodological assumptions, variable operationalization, research hypotheses, and descriptions of the statistical tests applied are presented in Appendix 1.

3.2. Product analysis in light of the research

Amidst the intensifying energy transition and increasing regulatory requirements aimed at reducing pollutant emissions, coal suppliers play a crucial role in the solid fuel supply chain. This subsection focuses on assessing the extent to which distributors adapt their product offerings to changing market and environmental conditions. The presented data will cover the availability of both traditional coal assortments and alternative renewable fuels, as well as observations regarding shifts in customer preferences toward lower-emission products. Finally, the verification of hypothesis H5 will be conducted, which assumes a relationship between the sellers' perception of changing buyer preferences and the introduction of innovative ecological fuels, such as Blue Coal, into their offerings.

3.2.1. Product structure of coal suppliers in a declining market

One of the key aspects of characterizing the operation of coal suppliers in the context of a declining coal market is analyzing their current product assortment. In the course of the study, respondents were asked which types of coal are included in their current sales offerings, with the possibility of selecting more than one option. The data obtained not only capture prevailing product trends but also allow for their interpretation within the broader context of transformations occurring in the energy sector.

As illustrated in Fig. 2, the structure of offered assortments remains strongly rooted in the traditional preferences of the retail market. The most frequently mentioned products are nut coal (96.6%) and pea coal (95.7%) – both nearly universally available in the analyzed suppliers. The sustained high presence of these assortments seems to confirm their lasting appeal to individual customers, who continue to choose fuels that combine familiar combustion technology with relatively favorable energy parameters.

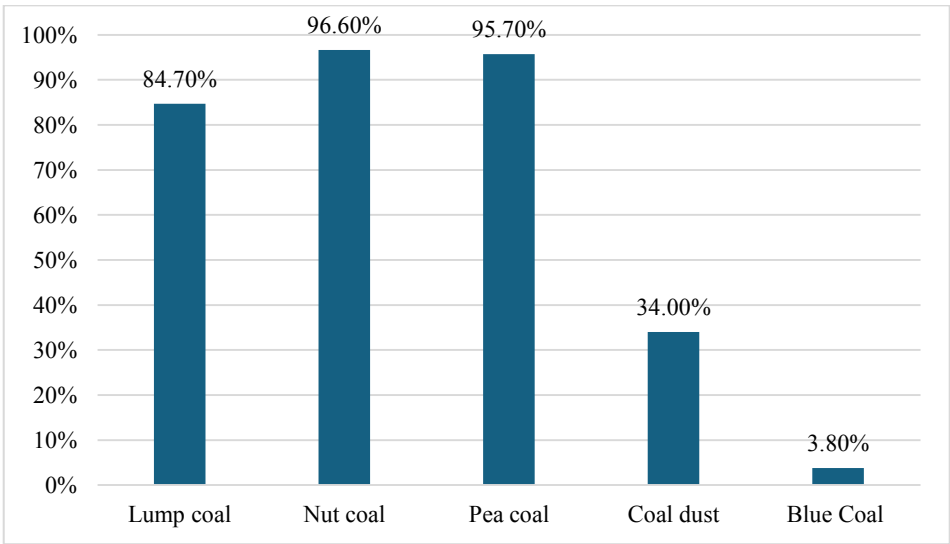


Fig. 2. Availability of types of coal offered by fuel depots (N = 235)

Source: Own research.

Slightly less frequently, though still common, is the offer of lump coal, available in nearly 85% of the suppliers. This indicates its sustained role as a “mid-range” product, meeting the needs of a more diverse group of customers, both individual and institutional.

The situation is quite different for coal dust, which is available in only about one-third of the suppliers. Its declining presence may be interpreted as a sign of the progressive phase-out of fuels with the lowest quality parameters –

both in terms of calorific value and pollutant emission. On one hand, this reflects increasing regulatory pressure, and on the other, it highlights a clear consumer preference shift toward cleaner heating technologies.

A particularly interesting case is Blue Coal – a low-emission coal variety perceived by some as a transitional solution toward a more sustainable energy mix. Only 3.8% of suppliers reported offering this product. Such a low level of distribution may indicate both economic barriers related to its introduction and a lack of adequate systemic support. Although Blue Coal is gaining prominence in public discourse, for many distributors it remains a niche product, difficult to commercialize within the realities of local coal markets.

The low availability of coal dust and the practically symbolic presence of Blue Coal point to an ongoing product assortment transformation toward fuels with higher combustion efficiency and lower emissions. However, this shift is marked by significant delays in the adoption of modern eco-friendly solutions.

3.2.2. Diversification of fuel depots offerings as a response to a changing market

As the survey results show (Fig. 3), the vast majority of fuel depots are not remaining passive in the face of these changes. As many as 73.2% of respondents declare that they already offer alternative fuels. This result clearly indicates a strong trend toward more sustainable energy sources – both in terms of emissions and origin.

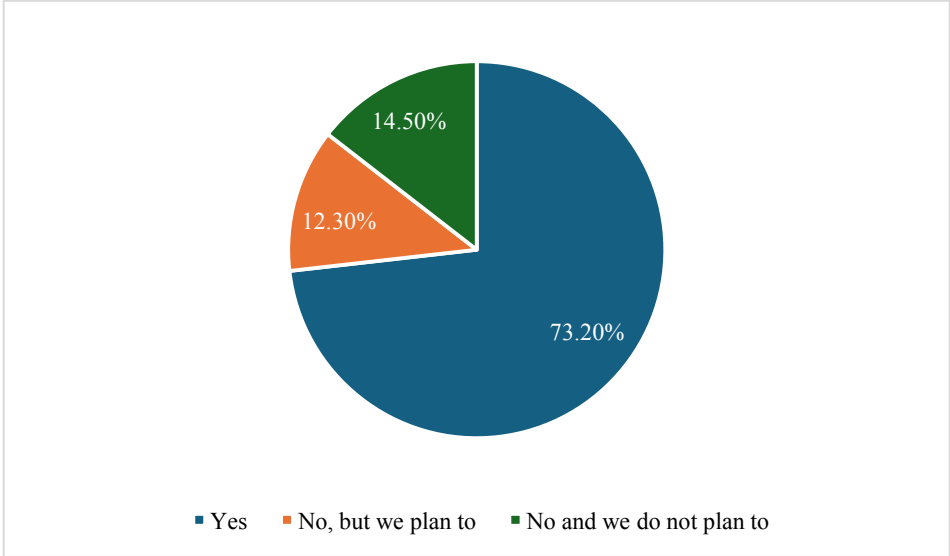


Fig. 3. Introduction of alternative fuels into the offerings of coal suppliers (N = 235)

Source: Own research.

Importantly, even among companies that have not yet decided to expand their offerings, proactive attitudes prevail: an additional 12.3% plan to introduce pellets or wood in the near future. Altogether, this means that as many as 85.5% of the surveyed fuel depots are either already participating or intend to participate in the process of product range transformation.

However, counterbalancing this trend is a group of enterprises that do not anticipate any changes to their offerings – these account for 14.5% of the total. It is difficult to clearly determine whether this decision stems from strategic considerations, financial constraints, or a belief in the continued strength of local demand for coal. Nevertheless, in the context of ongoing decarbonization efforts, the long-term rationale of such a stance raises legitimate concerns.

A high level of product diversification among fuel depots confirms that this sector is not lagging behind in the face of social and regulatory changes. Distributors, although traditionally associated with coal, are demonstrating an ability to adapt, both to growing consumer expectations and increasingly stringent climate policies. At the same time, the fact that a portion of the market has yet to take steps toward change signals the need for continued support, both in terms of information and financing. Educational campaigns, the promotion of eco-friendly heating solutions, as well as investment support instruments such as grants or preferential loans, may play a key role in accelerating the transformation among less active market participants.

3.2.3. Observed changes in customer preferences toward environmentally friendly coal fuels

In the context of the decline of the traditional solid fuel market, one of the key issues is identifying signs of changing customer preferences toward more environmentally friendly solutions. In the study, respondents were asked whether they have observed an increased interest in coal fuels with more favorable environmental characteristics (Fig. 4).

The results indicate that 37.4% of the surveyed fuel depots notice an increasing interest from customers in more environmentally friendly fuels, while another 35.7% observe such preferences sporadically. This means that a total of 73.1% of distributors perceive at least partial signs of changing purchasing attitudes. Although this is not yet a widespread phenomenon, the findings suggest the presence of a trend that – given appropriate institutional and market incentives – could deepen in the future.

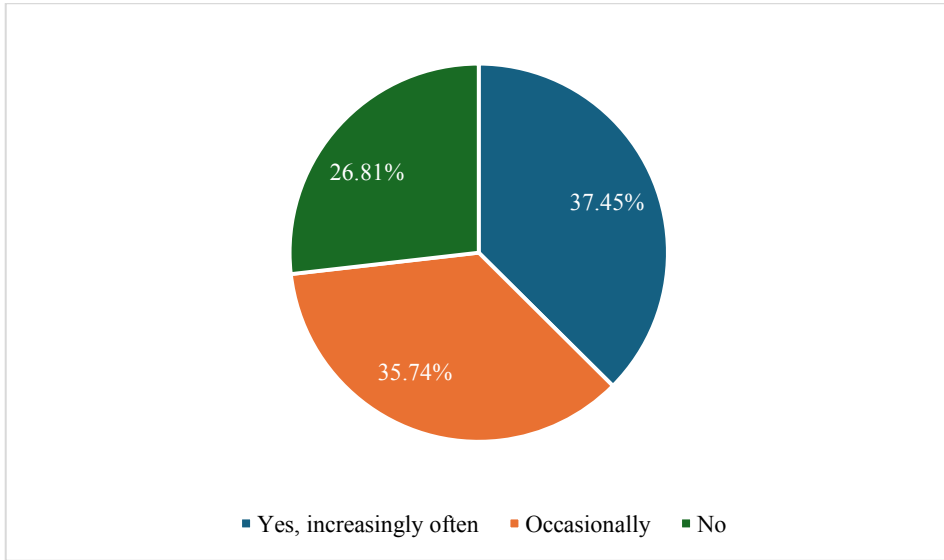


Fig. 4. Observed shift in customer preferences toward more environmentally friendly types of coal (N = 235)

Source: Own research.

At the same time, 26.8% of respondents have not observed any changes in customer preferences. This outcome may be a consequence of the strong entrenchment of traditional energy consumption patterns, especially in regions with lower purchasing power or among consumers attached to cheap, conventional fuel types. It is also important to consider the limited availability of eco-friendly products, for example, Blue Coal was offered by only 3.8% of the surveyed depots (Fig. 2), which significantly restricts the possibility of its purchase regardless of potential customer preferences.

A significantly larger share of fuel depots (73.2% – Fig. 3) declare that they offer alternative fuels such as pellets, firewood, or briquettes. This indicates a proactive approach by companies striving to adapt their product range to changing market realities. However, diversification of the offer alone does not automatically translate into increased demand – informational and educational efforts are necessary to support the process of raising consumer awareness. This is especially true for new, more expensive products with low recognition, such as Blue Coal, which require not only market availability but also active promotion and communication of their user benefits.

The identified dichotomy between availability and the actual change in customer attitudes poses a challenge for players operating in a declining market. Both economic incentives and institutional actions (e.g., subsidies, information campaigns) are needed to accelerate the adoption of low-emission fuels and support the energy transition in the individual heating segment.

3.2.4. Customer preferences vs. company actions – dependency analysis

In light of the observed signals of growing customer interest in ecological solutions, the next step is to verify whether the same fuel depots are indeed more frequently introducing Blue Coal into their offerings. To examine the existence of a relationship between offering Blue Coal and the observed shift in customer preferences toward more environmentally friendly solutions, an analysis was conducted using the chi-square test of independence and the Fisher-Freeman-Halton exact test. The analysis included 235 cases with complete data for both variables under study.

Table 9. Relationship between offering Blue Coal and changes in customer preferences (N = 235)

Offering Blue Coal	Customers choose more ecological solutions	Customers still choose traditional products	Total
The supplier does not offer Blue Coal	132	94	226
The supplier offers Blue Coal	5	4	9
Total	137	98	235

Source: Own research.

Hypothesis H5 assumed that a shift in customer preferences toward ecological solutions is correlated with the actual introduction of eco-friendly products (e.g., Blue Coal) by fuel depots. To verify this relationship, responses from 235 companies were analyzed by comparing declarations of offering alternative fuels (question 5) with the observed trend “more and more customers are choosing ecological solutions” (question 25).

The analysis was conducted using Pearson’s chi-square test for a 2×2 contingency table and, due to small cell counts, the Fisher’s exact test. The obtained values ($\chi^2 = 0.029$; $df = 1$; $p = 0.865$ and Fisher’s $p = 1.000$) clearly indicate no statistically significant relationship between the introduction of ecological products and the perceived change in customer preferences. The Phi coefficient value (-0.011) is close to zero, confirming a negligible effect of any possible association.

The structure of the contingency table shows that among 226 depots not offering Blue Coal, as many as 132 (58.4%) observe an increase in demand for ecological solutions, while in the group of 9 companies offering the eco-friendly product, the percentage is nearly the same ($5/9 = 55.6\%$). Differences at the level of a few percentage points are random and do not exceed the acceptable power of the test.

Hypothesis H5 was not confirmed – the implementation of ecological products does not correspond with a stronger perception of changing customer preferences by the companies. The likely reason is the small scale of eco-friendly

fuel introduction (only 9 respondents), which makes it statistically impossible to detect a relationship.

3.2.5. Discussion

The presented results highlight the complex dynamics of managing product portfolios and diversification strategies in a declining market, especially within the coal distribution sector. The dominance of traditional coal grades (e.g., nut coal, pea coal) in the offerings of 96.6% and 95.7% of surveyed depots corresponds with Kumar's [2003] observations, which indicate that companies often retain long-established products due to internal resistance or perceived customer loyalty, even when these products generate operational inefficiencies. This reluctance to phase out low-margin assortments underscores the challenges of portfolio rationalization in mature markets, in line with Kumar's four-stage process.

The limited adoption of innovative products such as Blue Coal (offered by only 3.8% of depots) contrasts with the broader trend of diversification toward alternative fuels (73.2% of depots). This discrepancy reflects Levitt's [1965] theory of "market stretching," where companies prefer incremental changes (e.g., rebranding) over transformational innovations. The lack of a statistically significant relationship between offering Blue Coal and observed changes in customer preferences ($\chi^2 = 0.152$; $p = 0.697$) supports Kotler and Keller's [2016] argument that innovations in shrinking markets are usually symbolic or minimal, as companies prioritize cost control and risk reduction over diversification. Ultimately, the weak link between ecological demand and supply highlights the defensive rather than proactive character of strategies in the final stage of the market life cycle.

The high level of diversification toward alternative fuels (pellets, firewood) reflects a strategic adaptation to regulatory and environmental pressures, aligning with the findings of Oladimeji and Udosen [2019] and Fatyandri et al. [2023], who view diversification as a survival mechanism in declining markets. However, inertia in phasing out traditional coal assortments highlights resource constraints and managerial hesitation, consistent with observations by Wiersema and Bowen [2008]. Their conclusions about the trade-off between product and geographic diversification are echoed in the challenges of allocating resources between maintaining existing products and promoting innovations.

The institutional perspective [Benito-Osorio, Ángel Guerras-Martín, and Ángel Zúñiga-Vicente, 2012] offers further explanations: weak institutional incentives (e.g., lack of subsidies, regulatory ambiguities) likely hinder the adoption of Blue Coal despite growing ecological awareness. This supports Delios and Beamish's [1999] argument about the importance of resource transfer capa-

bilities – companies may lack the managerial or financial competencies to replicate the know-how (e.g., marketing, customer education) necessary for the success of new products.

Niche marketing theory [Rust, Zeithaml, and Lemon, 2004] suggests that targeted strategies could enhance the appeal of eco-friendly fuels. However, the marginal presence of Blue Coal indicates a perceived lack of uniqueness or value for specific segments. Proactively creating niches, in line with Razak's [2024] "Blue Ocean Strategy" concept, could help address this issue by positioning such products as distinct alternatives to traditional offerings.

In summary, although coal distributors demonstrate adaptability through diversification, systemic barriers – stemming from institutional frameworks, resource limitations, and insufficient customer engagement – hinder the transition to sustainable solutions. Further efforts should focus on institutional support, multi-channel educational campaigns, and pilot testing to align product innovations with market readiness.

3.3. Conclusions and recommendations for pricing policy

In the context of a gradual decline in demand for hard coal and increasing pressure from environmental regulations and alternative energy sources, pricing strategies become a key tool for fuel depots to maintain competitiveness. This subsection analyzes how distributors set prices and apply discounts to balance profitability while addressing the challenges of declining markets and growing price sensitivity among buyers. Special attention is given to the relationship between pricing methods and discount policies, as well as the potential of flexible payment schemes as a tool supporting the adoption of low-emission fuels. Finally, Hypothesis H3 – which assumes a significant link between pricing mechanisms and the discount policies applied by depots – will be tested.

3.3.1. Pricing strategies – between dependence and flexibility

One of the key aspects of fuel depots operating in a declining market is pricing policy – which not only reflects cost structures but also serves as an important element of competitive strategy. In the study, respondents were asked about how they set prices for coal in their offerings. The answers provided by distributors reveal both the nature of their relationships with suppliers and the degree of strategic autonomy of individual entities (Fig. 5).

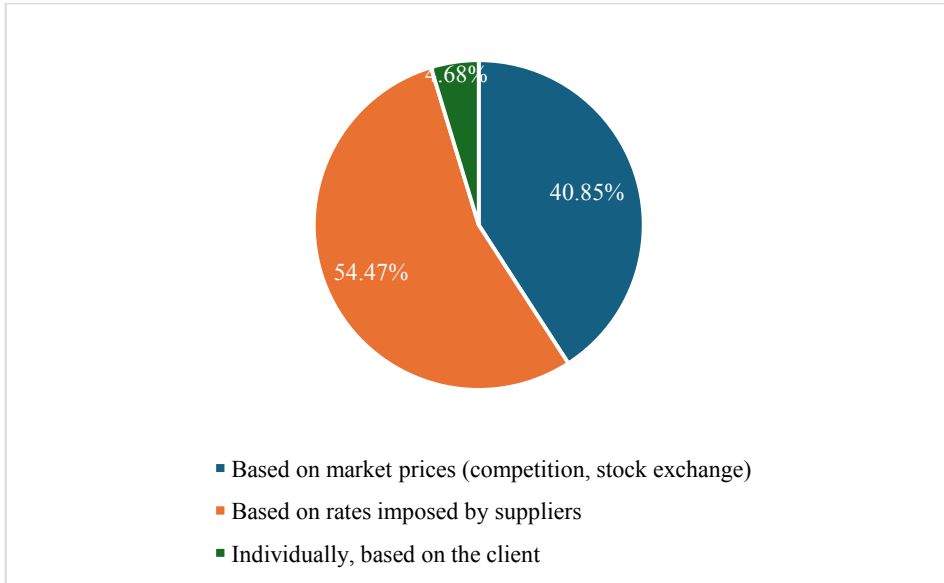


Fig. 5. Methods of coal pricing in coal depot offers (N = 235)

Source: Own research.

The most commonly used approach, indicated by 54.5% of respondents, is setting sales prices based on rates imposed by suppliers. In practice, this strategy means that distributors primarily focus on adding a commercial margin to the purchase price, foregoing active management of final price levels. This stance likely reflects limited negotiating power relative to dominant producers and wholesalers, making many local coal sellers more executors than creators of pricing policy.

The second largest group, comprising 40.9% of respondents, consists of depots that set prices based on market analysis: monitoring competitors and observing exchange quotations. This approach indicates a higher level of strategic flexibility, enabling better adaptation of the offer to local conditions and changing customer expectations. Particularly in unstable markets or declining demand, distributors adopting this approach may respond more quickly by adjusting prices to the current situation.

Only 4.7% of fuel depots employ a more individualized pricing policy, adjusting rates based on the characteristics of specific customers. This approach, which requires market segmentation skills, negotiation capabilities, and value calculations for different customer groups, remains relatively rare. This may stem from organizational limitations, a lack of analytical tools, or a belief that such a strategy is not sufficiently profitable in local conditions.

It is worth comparing these results with earlier observations concerning product assortment structure (Fig. 2) and the diversification process (Fig. 4). On one hand, there is near-universal availability of traditional coal grades and

a relatively high openness to alternative fuels. On the other hand, limited price flexibility, resulting from dependence on supplier prices, may pose a significant barrier to introducing innovative products such as Blue Coal. Despite their environmental potential, these products often require incentive mechanisms – whether through lower margins or subsidizing initial purchases – which may be difficult to implement under rigid pricing policies.

In practice, only those entities that actively monitor the market and independently adjust their price levels have sufficient flexibility to effectively support the sales of low-emission fuels. Their example demonstrates that price flexibility may be not only a competitive tool but also a crucial element in promoting the green transition at the microeconomic level.

3.3.2. Discount policy as a tool for stabilizing and transforming the offer

In the context of declining demand for traditional hard coal and increasing pressure to comply with energy transition requirements, fuel depots are seeking mechanisms that support both retaining loyal customers and enhancing the attractiveness of their offerings. One of the tools available to distributors is discounts, used not only to regulate demand but also to build long-term business relationships. Survey respondents were asked whether they apply discounts in their pricing strategies (Fig. 6).

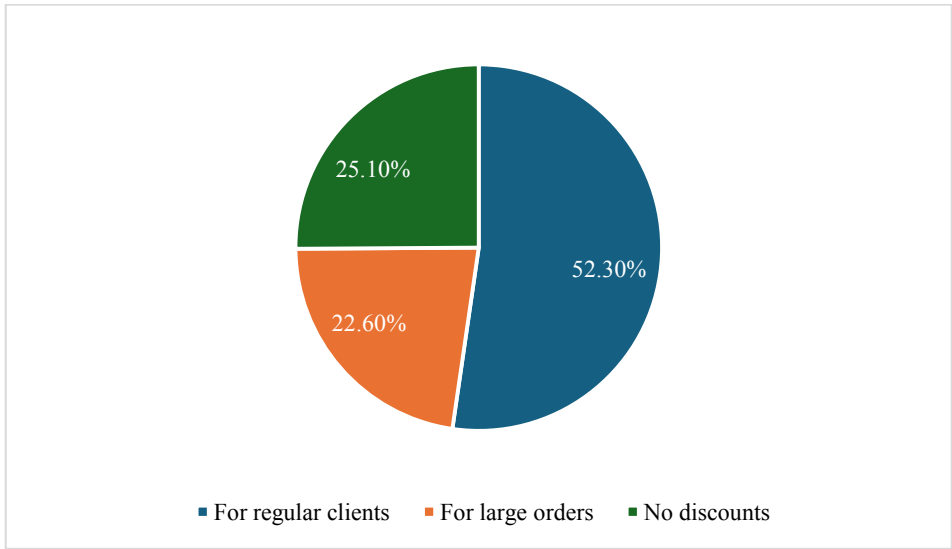


Fig. 6. Use of discounts in coal pricing strategies (N = 235)

Source: Own research.

The responses show that over half of the surveyed distributors (52.3%) offer discounts to regular customers, indicating a strong presence of loyalty strategies in the commercial practices of fuel depots. In the context of a declining market, where maintaining core sales volumes becomes crucial, this approach may be seen as rational – it not only helps reduce demand fluctuations but also fosters more predictable sales relationships. The regular customer gains a privileged position, while the distributor achieves stability in uncertain times.

The second most common approach, reported by 22.6% of respondents, is the use of volume discounts, meaning price reductions based on the size of the order. The main goal here is to increase inventory turnover and encourage customers to place larger one-time orders. Strategically, this policy may also promote customer exposure to new types of fuels, for example, by linking discounts to specific alternative products.

It is worth noting that as many as 25.1% of the surveyed outlets declared having no discount policy at all. It may be assumed that these are entities most dependent on prices imposed by suppliers and operating with a fixed margin, leaving no room for applying individual price incentives. In such a situation, discounts, even limited ones, could be a valuable tool to support the introduction of low-emission products, such as Blue Coal or pellets, by lowering the cost threshold for customers who are not yet convinced.

From the perspective of market transformation, the moderate prevalence of discounts may be seen both as an opportunity and a challenge. On one hand, distributors offering loyalty or volume discounts already have tools that, if properly targeted, may support the promotion of more eco-friendly fuels. On the other hand, the lack of a discount policy in one-quarter of respondents shows the existence of a group of entities that may struggle to actively shape demand for new products without external support, such as subsidy programs or preferential financing.

From the perspective of both adapting to market changes and sustainable development, it seems reasonable to recommend expanding existing discount systems to include incentives for purchasing ecological fuels. Dedicated discounts for loyal customers and wholesale discounts on low-emission products may serve as a bridge between the traditional market structure and the new requirements of energy and environmental policy. Such an approach would not only accelerate the decarbonization process but also allow distributors to test new solutions without risking margin destabilization on the main, still dominant products.

Taking into account the identified pricing strategies, based on supplier prices, market prices, and individual negotiations, it was examined whether the method of price formation actually influences the discount policy applied, which is the subject of verification of hypothesis H3.

To verify hypothesis H3, which assumes that the method of price setting differentiates the discount policy applied by fuel depots, a cross-tabulation analysis was conducted along with a chi-square test of independence. The analysis covered the full sample of 235 observations, with no missing data cases.

Table 10. Relationship between pricing method and discount policy (N = 235)

Discount policy	Market prices	Supplier prices	Individual	Total
Discounts for regular clients	51	64	8	123
Discounts for large orders	28	23	2	53
No discounts applied	17	41	1	59
Total	96	128	11	235

Source: Own research.

Table 10 presents the distribution of discount policies depending on the method of price setting. Most depots setting prices based on the market (51 cases) as well as those setting prices based on the supplier (64 cases) applied discounts for loyal customers. Discounts for large orders were most commonly offered among depots using market-based pricing (28 cases), whereas the absence of discounts was most frequently observed among depots setting prices according to the supplier (41 cases).

The results of Pearson's chi-square test ($\chi^2 = 9.828$; $df = 4$; $p = 0.043$) and the Fisher-Freeman-Halton exact test ($p = 0.043$) indicate a statistically significant association between the variables studied. The obtained p -values are less than the accepted significance level $\alpha = 0.05$, allowing the null hypothesis of variable independence to be rejected. The likelihood ratio test results ($p = 0.039$), supported by Monte Carlo estimates, further strengthen this conclusion.

Although 22.2% of the table's cells had expected counts below 5 (the minimum expected count was 2.48), the use of exact statistical methods (Monte Carlo test and Fisher-Freeman-Halton test) ensured the validity of the inference. The conclusions from the analysis indicate that the method of price setting significantly affects the discount policy applied by fuel depots, confirming hypothesis H3.

In the individual discount model, it is advisable to develop loyalty programs that enhance the value of the offer and support customer retention. Companies using supplier-based pricing should consider wholesale discounts to increase sales and margin, as well as intensify purchasing negotiations to obtain more favorable conditions. It is also crucial to clearly manage the three categories of discounts (loyalty, wholesale, no discount) and to introduce a system for monitoring their effectiveness (e.g., A/B testing, ROI analysis), which will allow better adaptation of pricing policy to the market and customer expectations.

3.3.3. Price sensitivity of customers and barriers to offer transformation

From the perspective of distribution strategies in a declining market, the customers’ ability to accept price changes gains particular importance. In a survey conducted among distributors, they were asked whether their customers exhibit sensitivity to changes in coal prices (Fig. 7). The responses provided significant data for analyzing demand elasticity and potential barriers in the process of introducing more expensive, environmentally friendly fuels.

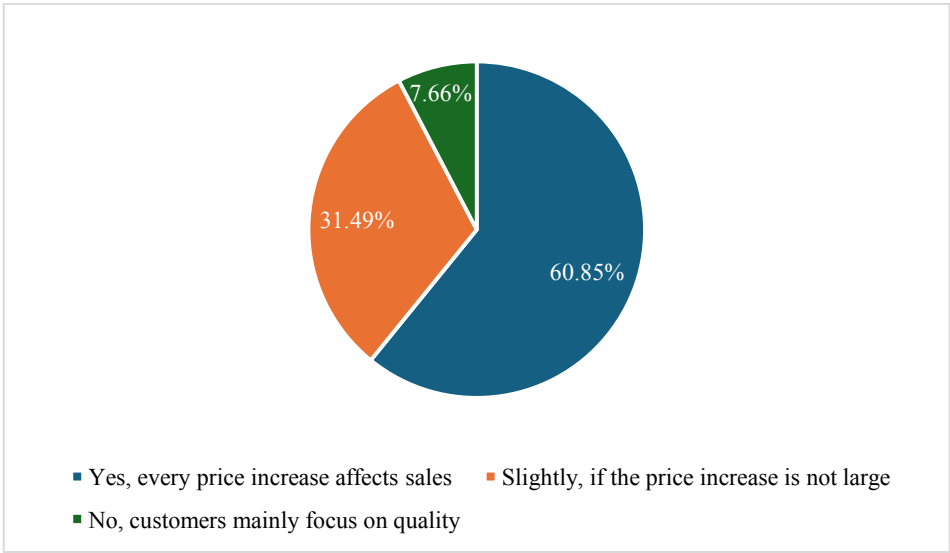


Fig. 7. Customer sensitivity to changes in coal prices (N = 235)

Source: Own research.

The vast majority of respondents (60.9%) indicated that consumers react negatively even to small price increases, resulting in a noticeable drop in sales. This indicates a high level of price sensitivity, typical for products with significant budget impact, low differentiation, and easy substitutability. Another 31.5% of distributors observe customer reactions only with larger price changes, suggesting the existence of a certain cost acceptance buffer – possibly related to purchase seasonality, loyalty to a specific supplier, or product quality. Only a small number of respondents (7.7%) declare that their customers are relatively resistant to price changes and primarily guided by the quality of the raw material.

The high level of price sensitivity implies concrete limitations in implementing transformation policies. New, low-emission fuels, such as Blue Coal or pellets, usually have higher unit costs, which, in conditions of low-price tolerance, may constitute a significant demand barrier. Therefore, fuel depots must seek strategies to mitigate the price effect without compromising the profitability of their operations.

First, it is advisable to maintain as stable commercial margins as possible and to limit the frequency of price changes, especially concerning basic product assortments. Second, a flexible discount policy, targeted at loyal customers and for larger orders, may serve as a buffer that mitigates the perception of the high price of the introduced product. Third, an effectively crafted marketing narrative emphasizing the added value of ecological fuels, such as lower emissions, health benefits, and reduced impact on the local environment, may also be a powerful tool.

The identified customer price sensitivity underscores the need to develop a balanced pricing approach – one that maintains customer loyalty, does not disrupt sales continuity, and simultaneously creates room for the gradual implementation of eco-friendly solutions. Ultimately, price sensitivity, more than product availability itself, may determine the pace and direction of the transformation of local fuel markets.

3.3.4. Payment methods as a tool to support offer transformation

Available payment methods play a significant role in shaping product accessibility and the level of price acceptance, especially for goods with a relatively high unit cost, such as ecological fuels. In the survey, fuel depot distributors were asked about the payment methods they offer to their customers (Fig. 8). The results indicate a dominance of traditional payment mechanisms, characteristic of declining markets.

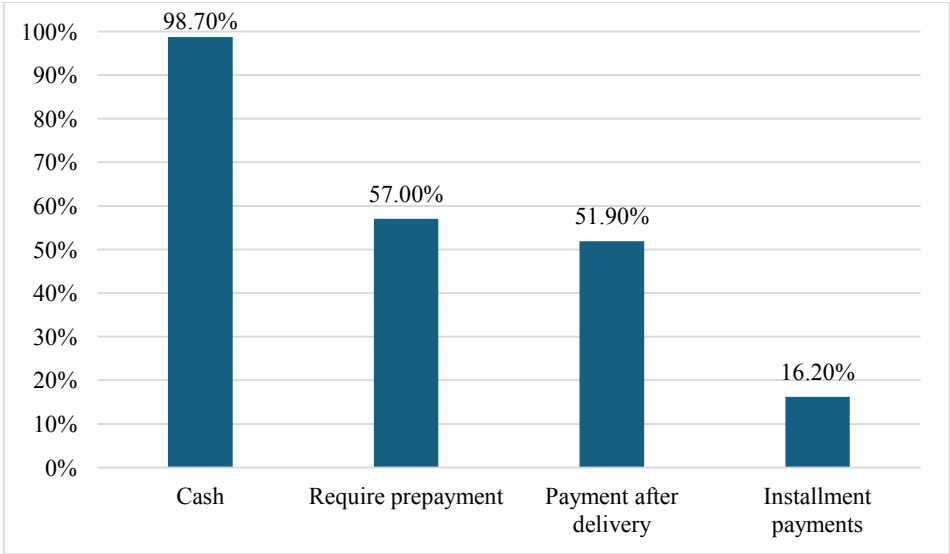


Fig. 8. Available payment methods – “Yes” responses (N = 235)

Source: Own research.

The vast majority of depots (98.7%) accept cash payments, confirming an established transactional model based on simplicity, immediate settlement, and avoidance of credit risk. Such behaviors are typical for segments characterized by high seasonality, a large share of individual customers, and low inclination toward formalizing commercial relationships.

More than half of the respondents (57.0%) require prepayment, which is related to cooperation terms with raw material suppliers and the need to secure the financial liquidity of the depots. At the same time, a nearly equivalent proportion of companies (51.9%) declare the possibility of payment after delivery, indicating the existence of flexible trust-based solutions, particularly for loyal customers and bulk orders.

The least popular form is installment payments, available in only 16.2% of cases. Although marginal quantitatively, offering installments may have strategic importance in the context of introducing more expensive, low-emission fuels such as Blue Coal or pellets. The option to spread payments lowers the entry barrier, reduces the price pressure felt by customers at once, and increases the accessibility of ecological products for households with limited liquidity.

The structure of offered payment methods confirms the conservative nature of the analyzed segment but simultaneously points to an untapped potential of financial instruments supporting product assortment transformation. It is recommended to gradually introduce flexible payment mechanisms, especially installment options and deferred payments, as elements of sales policy that increase the affordability of ecological fuels and reduce the risk of demand decline associated with their higher unit price.

3.3.5. Discussion

The presented research results reveal the complexity of pricing strategies in declining markets, particularly in the coal distribution sector. The dominance of supplier-based pricing as the foundation for setting rates (54.5% of depots) confirms Kumar's [2003] observations that firms in mature markets often maintain traditional pricing models due to limited bargaining power and risk aversion. At the same time, the price flexibility demonstrated by 40.9% of distributors relying on market prices corresponds with Levitt's [1965] "market stretching" theory, where responsiveness to competition and demand changes is crucial for maintaining market position.

The statistically significant relationship between pricing methods and discount policies (H3: $\chi^2 = 9.828$; $p = 0.043$) supports the arguments of Hinterhuber and Liozu [2018], who emphasized that nonlinear pricing models (e.g., loyalty discounts) may strengthen customer relationships amid declining demand. The

fact that 52.3% of depots apply discounts for loyal customers, while only 4.7% negotiate prices individually, indicates the dominance of conservative practices, which may limit adaptation to pro-environmental trends. The lack of flexibility among 25.1% of firms not offering discounts reflects resource and institutional challenges, consistent with the institution-based view [Benito-Osorio, Ángel Guerras-Martín, and Ángel Zuñiga-Vicente, 2012], where weak regulatory incentives (e.g., lack of subsidies) hinder pricing innovations.

High customer price sensitivity (60.9% of depots report sales declines with any price increase) confirms findings by Johnson and Scott [2019] that brand loyalty does not always compensate for resistance to price hikes, especially when the product lacks clear added value. The marginal presence of Blue Coal (3.8% of depots) and the low availability of installment payments (16.2%) indicate an underutilized potential of the “Blue Ocean” strategy [Razak, 2024], where flexible payment methods and communication of ecological benefits could reduce the perceived cost of changing customer habits.

The dominance of cash payments (98.7%) and prepayments (57.0%) reflects a conservative approach typical of declining markets, in line with Guiltinan’s [1999] analyses. However, the lack of use of instruments such as installment plans limits the ability to test new products, thus hindering assortment transformation. The results confirm that an effective pricing policy in declining markets requires balancing flexibility, customer education, and collaboration with suppliers, consistent with recommendations by Oladimeji and Udosen [2019] and Fatyandri et al. [2023].

In summary, the analysis results indicate that pricing methods significantly influence discount policy in fuel depots, confirming hypothesis H3. Under conditions of high customer price sensitivity, the dominance of rigid supplier-based pricing models limits the possibilities for implementing flexible mechanisms supporting the sale of low-emission fuels. Implementing more diversified pricing strategies – including loyalty and volume discounts as well as flexible payment options – may support assortment transformation and increase customer openness to innovative ecological solutions. The key challenge remains integrating pricing policy with educational initiatives and partnership relations with suppliers, enabling better alignment of the offer with changing market and environmental realities.

3.4. Evaluation of distribution channel effectiveness

In the context of a deepening energy transition and the systematic decline in demand for fossil fuels, fuel depots operating in a sunset industry are faced with the necessity of adjusting their distribution and logistics strategies to a changing environment. This subsection analyzes how distributors are adapting their sales

formats, delivery methods, and inventory management to the needs of different customer groups and operational conditions. It presents data on the use of sales channels, both traditional and digital, transportation methods and order fulfillment times, as well as storage strategies. It also includes a verification of hypothesis H1, which assumes a relationship between the type of customer and the choice of sales channel.

3.4.1. Sales channels as an element of distribution strategy in a declining market

As part of the study, distributors were asked which sales channels they use in their operations. Respondents could indicate more than one channel, which allowed for an assessment of the degree of diversification in their distribution strategies (Fig. 9). The results confirm the dominance of traditional sales methods and the limited presence of modern customer communication tools.

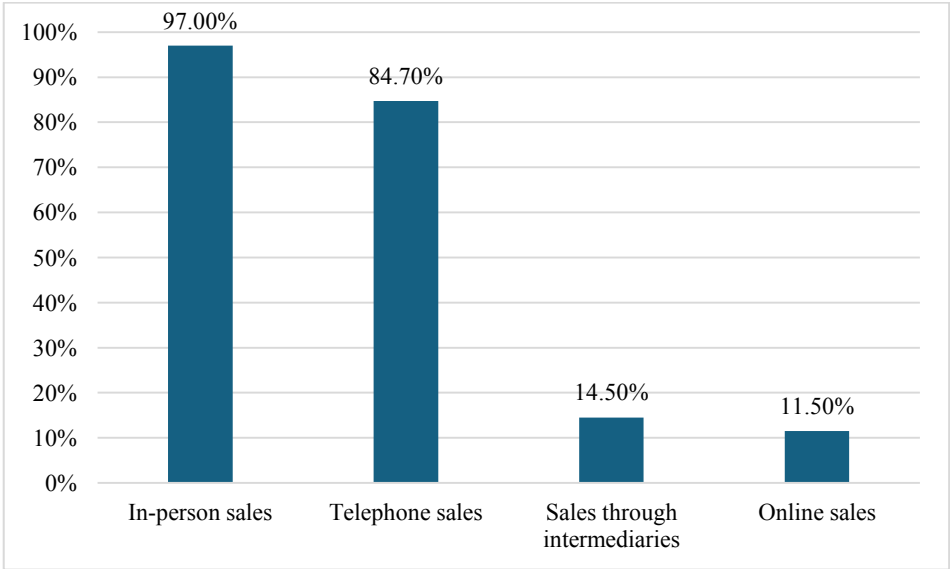


Fig. 9. Sales channels used by fuel depots in a declining market (N = 235)

Source: Own research.

A clear majority of depots (97.0%) conduct in-person sales, reflecting deeply rooted mechanisms of personal contact in this industry. Fuel depots, which operate mainly in local and peripheral markets, rely on trust-based relationships and direct interactions that allow physical inspection of goods, negotiation of purchase terms, and the building of customer loyalty.

The second most common channel is telephone sales, indicated by 84.7% of respondents. This represents a natural extension of the traditional sales model, enabling efficient customer service without requiring the client's physical presence at the depot. This channel is particularly useful for returning customers who are already familiar with the product offering and expect quick order fulfillment.

Modern sales channels play a significantly smaller role in the distribution structure. Only 11.5% of depots report using online sales channels. The low level of e-commerce adoption may result from limited digital competencies, but also from the nature of the product – physical, heavy, and logistically sensitive – as well as customer preferences for in-person contact. Similarly low usage (14.5%) is reported for sales through intermediaries, which reinforces the local and relationship-based character of the market. The presence of external intermediaries is often perceived as unnecessary or ineffective.

The findings suggest that the dominance of traditional sales channels is consistent with the logic of a declining market, where direct relationships, simplified transaction processes, and limited scale of operations are key. At the same time, the low level of channel diversification may present a barrier to introducing new, less familiar products, such as eco-friendly fuels, which require additional educational and promotional efforts. Therefore, a cautious yet systematic expansion of online presence is recommended (e.g., via simple contact tools like order forms, messaging apps, or local online listings), along with consideration of partnerships with intermediaries or sales platforms for promoting low-emission products.

To deepen the analysis, hypothesis H1 was tested, which assumes a relationship between customer type and choice of sales channel. This analysis aims to determine to what extent customer characteristics influence the distribution strategies employed by fuel depots in a declining market.

For the verification of hypothesis H1: There is a relationship between customer type and choice of sales channel, due to the low number of intermediary entities in coal distribution ($n = 2$), this category was merged with the group "Coal Intermediaries and End Coal Purchasers" for the purpose of further analysis. For each two-dimensional contingency table (Tables 11 to 14), Pearson's Chi-square test, continuity correction, likelihood ratio test, and Fisher's exact test were conducted. To assess the strength of association, Phi and Cramér's V coefficients were used.

Table 11. Relationship between customer type and use of stationary sales by fuel depots

In-person sales	Exclusively to End Coal Purchasers	Coal Intermediaries and End Coal Purchasers	Total
No	6	1	7
Yes	164	64	228
Total	170	65	235

Source: Own research.

The conducted statistical tests did not reveal statistically significant differences between in-person sales and the type of customer served. The result of Pearson's chi-square test was $\chi^2(1) = 0.645$ with a significance level of $p = 0.422$, indicating no grounds to reject the null hypothesis of variable independence. Fisher's exact test also confirmed the lack of a significant relationship ($p = 0.677$). In the analyzed 2 x 2 contingency table (Table 11), 25% of the cells had an expected frequency of less than 5 (with a minimum frequency of 1.94), which is why both the continuity correction and Fisher's exact test results were taken into account in interpreting the findings. Based on these results, it may be concluded that the type of customer (whether exclusively to end coal purchaser or coal intermediary) does not significantly influence the use of in-person sales among the analyzed fuel depots.

Table 12. Relationship between Internet-based sales and customer type in fuel depots

Online sales	Exclusively to End Coal Purchasers	Coal Intermediaries and End Coal Purchasers	Total
No	158	50	208
Yes	12	15	27
Total	170	65	235

Source: Own research.

Next, online sales were analyzed (Table 12). Customers from the combined group of coal intermediaries and end coal purchasers buy online significantly more often (23.1%) than exclusively end coal purchasers (7.1%). The results of the Chi-square test $\chi^2(1) = 11.864$ ($p < 0.001$) and Fisher's exact test ($p = 0.001$) confirm the significance of this difference. The Phi coefficient = 0.225 indicates a medium effect size.

Table 13. Relationship between telephone sales methods and customer types in coal suppliers

Telephone sales	Exclusively to End Coal Purchasers	Coal Intermediaries and End Coal Purchasers	Total
No	32	4	36
Yes	138	61	199
Total	170	65	235

Source: Own research.

Significant differences were also observed for the telephone sales channel (Table 13): 93.8% of purchases among coal intermediaries and end coal purchasers vs. 81.2% among exclusively to end purchasers. The Chi-square test $\chi^2(1) = 5.818$ ($p = 0.016$) and Fisher's exact test ($p = 0.015$) indicate statistical significance, while the Phi coefficient = 0.157 suggests a weak to moderate effect size.

Table 14. Relationship between sales through intermediaries and client type in fuel depots

Sales through intermediaries	Exclusively to End Coal Purchasers	Coal Intermediaries and End Coal Purchasers	Total
Yes	8	26	34
No	162	39	201
Total	170	65	235

Source: Own research.

The most pronounced differentiation was observed in the intermediary channel (Table 14): 40.0% of Intermediary and End Purchaser vs. 4.7% in the group of exclusively to End Purchasers. The Chi-square test $\chi^2(1) = 47.333$ ($p < 0.001$) and Fisher's exact test ($p < 0.001$) confirm a very strong association, reflected by a high Phi coefficient of 0.449.

In summary, the results partially confirm hypothesis H1 – the type of customer is significantly related to the choice of sales channels; however, this relationship does not apply to in-person sales. In the case of in-person sales, statistical analysis did not reveal significant differences between serving exclusively to end purchasers and serving both intermediary and end purchasers. This means that direct sales at physical locations is a common and evenly applied practice among fuel depots, regardless of the dominant customer type.

In contrast to in-person sales, statistically significant differences related to customer type were observed for channels such as online sales, telephone sales, and sales to intermediaries. Customers representing both intermediaries and end purchasers showed a noticeably greater tendency to buy via the Internet and telephone, which may stem from their higher need for purchasing efficiency and a preference for more flexible forms of contact and negotiation of transaction terms. The strongest association was noted in sales conducted through intermediaries – this category showed the most pronounced differences between customer groups, both statistically and in terms of effect size.

The conclusions drawn from the analysis suggest that the development of alternative sales channels, especially those that are remote and intermediary-based, should be adapted to the structure of customer types served by fuel depots. In practice, this means that companies operating in the coal market and cooperating with intermediaries should invest more heavily in developing online channels, telephone sales tools, and expanding their intermediary networks. Meanwhile, for exclusively end customers, the in-person channel continues to play a key role and should be maintained as the primary form of sales.

3.4.2. Transport service as an element of added value in a declining market

As part of a survey conducted among coal distributors, respondents were asked whether they offer fuel delivery to customers. The results (Fig. 10) indicate that this service is almost universally included in the business model of the surveyed entities. As many as 99.1% of the coal yards declared that they provide customers with the option of having their orders delivered, which confirms the crucial role of last-mile logistics in building commercial relationships in the local market.

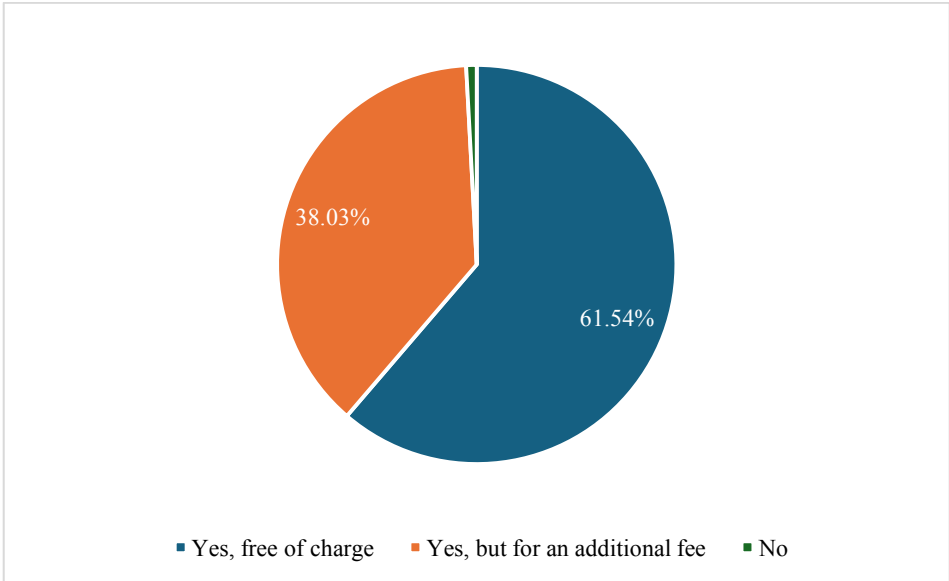


Fig. 10. Offering coal transportation by fuel depots on the declining market (N = 235)

Source: Own research.

The largest group of respondents (61.6%) offers free delivery, which may be interpreted as an attempt to increase the attractiveness of their offer amid a continuing decline in demand. In this context, free delivery becomes not only an added-value feature but also a competitive strategy aimed at retaining customers and reinforcing loyalty to local suppliers. In the face of a declining market for traditional solid fuels, offering comprehensive service, including delivery, may be crucial for maintaining business relationships and securing regular orders.

Another group of distributors (38%) provides transport services not for a fee, reflecting the need to balance operational costs, especially for smaller orders or deliveries over longer distances. This model represents an attempt to

reconcile customer expectations with the financial requirements of the business. While it may not be as competitive as free delivery, it allows for more flexible margin management and enables businesses to tailor their offerings to local conditions.

Only 0.9% of coal yards do not offer any form of delivery service. This likely includes entities specializing in wholesale operations, assuming customer pickup or cooperating with external logistics providers. However, such a strategy is extremely rare and may limit the potential for growth in the retail segment.

From the perspective of market transformation, logistics is becoming a key factor not only in supporting ongoing sales but also in facilitating the introduction of new products, including low-emission fuels. Providing delivery for products like Blue Coal or pellets may significantly lower the entry barrier for customers considering a switch in fuel type, while also contributing to a positive purchasing experience. In this context, further investment in transport logistics is recommended, particularly in flexible delivery models (e.g., consolidated shipments), as well as leveraging logistics as a tool to promote environmentally friendly fuel assortments.

3.4.3. Operational efficiency and customer loyalty – order fulfillment times at fuel depots

One of the key dimensions of competitiveness for fuel depots operating in a declining market is logistical efficiency, understood as the ability to fulfill orders quickly. In the context of decreasing demand and increasingly volatile customer purchasing behavior, short delivery times become a crucial part of strategies aimed at retaining clients and preventing order migration to competitors.

In the conducted survey, a vast majority of respondents (83.0%) reported that they fulfill orders within 24 hours of placement (Fig. 11). This high level of responsiveness reflects strong operational flexibility and a readiness to react immediately to customer needs – an important competitive advantage, particularly within the constraints of local markets.

Fast delivery may serve as a compensatory mechanism in situations where businesses face limitations in pricing flexibility or product range diversity – common challenges in a declining sector. By providing swift service, fuel depots may enhance customer satisfaction and loyalty, offsetting disadvantages in other areas of their offer. The ability to ensure rapid order fulfillment is not only a sign of operational maturity but also a strategic asset in retaining market position during the sector's transitional phase.

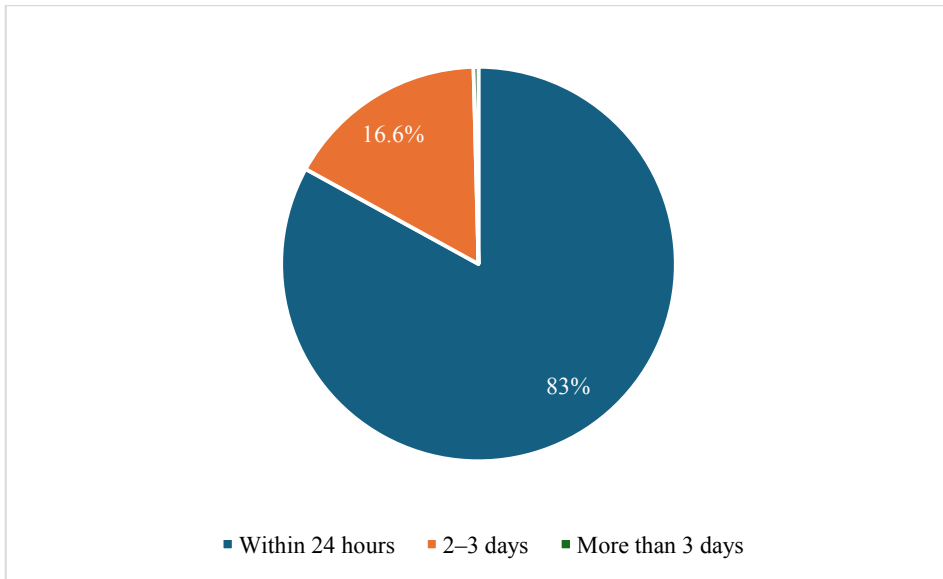


Fig. 11. Average order fulfillment time at fuel depots (N = 235)

Source: Own research.

The analysis of order fulfillment times among surveyed fuel depots reveals a strong emphasis on logistical efficiency, even in a declining market environment. A significant majority of respondents (83.0%) report fulfilling orders within 24 hours, highlighting a high level of responsiveness and operational flexibility.

Another group, comprising 16.6% of the surveyed depots, indicated a delivery time of 2–3 days. While not as fast as next-day delivery, this timeframe still represents a relatively short turnaround that supports effective customer service, particularly in regions with lower operational intensity or where delivery aggregation is necessary. Only 0.4% of companies reported fulfilling orders in more than 3 days, which may be considered a marginal occurrence. This may be attributed to businesses with a specialized operational profile, such as those focused on wholesale distribution, or those facing infrastructural constraints.

In the context of a declining market, where traditional sources of competitive advantage such as pricing or product variety are gradually losing relevance, operational efficiency is gaining importance as a decisive factor in a company's ability to retain its customer base. Fast order fulfillment not only enhances customer satisfaction but may also increase the willingness of clients to experiment with new products, such as environmentally friendly fuels. In such cases, a quick response from the supplier is often critical to the purchasing decision.

3.4.4. Procurement and inventory management strategies in a declining market

In the context of a declining market, which the Polish hard coal market is gradually becoming, distributors' procurement strategies are adapting to the changing dynamics of demand, regulatory uncertainty, and rising operating costs. One of the key aspects of fuel depots' operations remains the organization of deliveries and the approach to raw material storage. The respondents were asked about their dominant procurement model – whether companies maintain inventory stock or fulfill orders “just-in-time” based on customer demand (see Fig. 12).

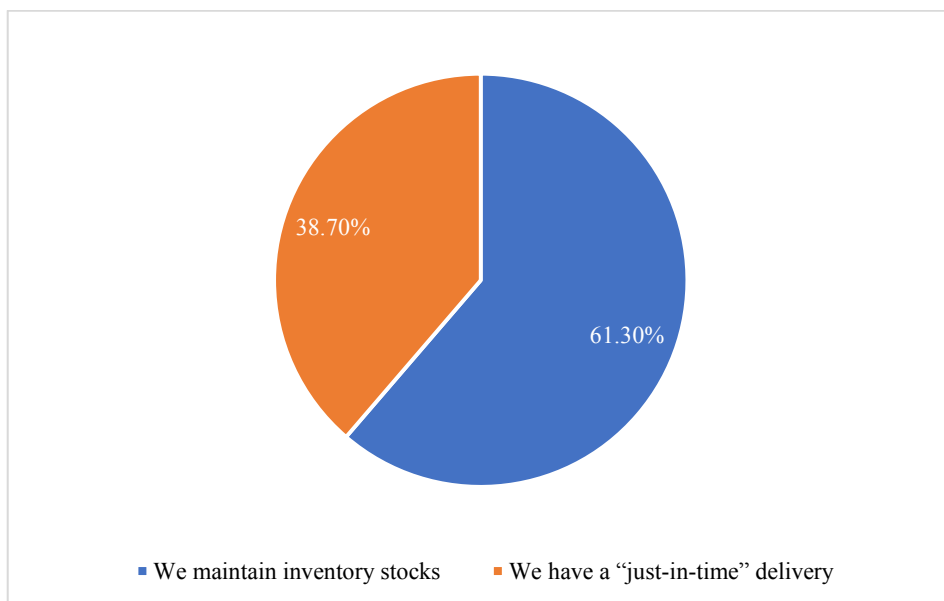


Fig. 12. Model of coal supply to fuel depots (N = 235)

Source: Own research.

The vast majority of fuel depots (61.3%) indicated that they maintain inventory stocks. This strategy may be seen as a safeguard against unpredictable changes in supply and demand, as well as delays in deliveries or sudden price increases. In a shrinking market with high seasonality in solid fuel sales, maintaining inventory often becomes an operational necessity, enabling quick order fulfillment and stabilizing customer relationships. It may also be a way to adapt to risks related to import restrictions and uncertain national energy policies.

The remaining respondents (38.7%) declared a “just-in-time” delivery strategy – fulfilling orders only after receiving customer demand. This model may stem from a desire to reduce storage costs and the need to operate with limited logistical capacity. It is typical for smaller entities or companies operating in

areas with lower demand intensity, where holding large inventories may be unprofitable or technically unfeasible. In some cases, this strategy may also result from low sales predictability, which complicates purchasing planning and inventory management.

Despite the observed decline in coal demand and rising storage costs, a significant portion of depots still consider inventory maintenance a key element of their survival strategy. In a declining market, where competition focuses primarily on the speed and reliability of deliveries, the ability to fulfill orders immediately may constitute a significant competitive advantage. In this context, warehousing is not merely a financial burden but a strategic component for ensuring operational continuity and maintaining customer relationships.

3.4.5. Potential for changing the distribution system according to fuel depots’ assessment

In a declining market environment, where companies must adapt to dynamic changes such as shrinking demand, increasing cost pressures, and shifting customer preferences, changing the distribution system may be a crucial part of an adaptive strategy. The survey asked respondents whether, in their opinion, changing the distribution system, including increasing online sales, could contribute to enhancing the competitiveness of their business (Fig. 13).

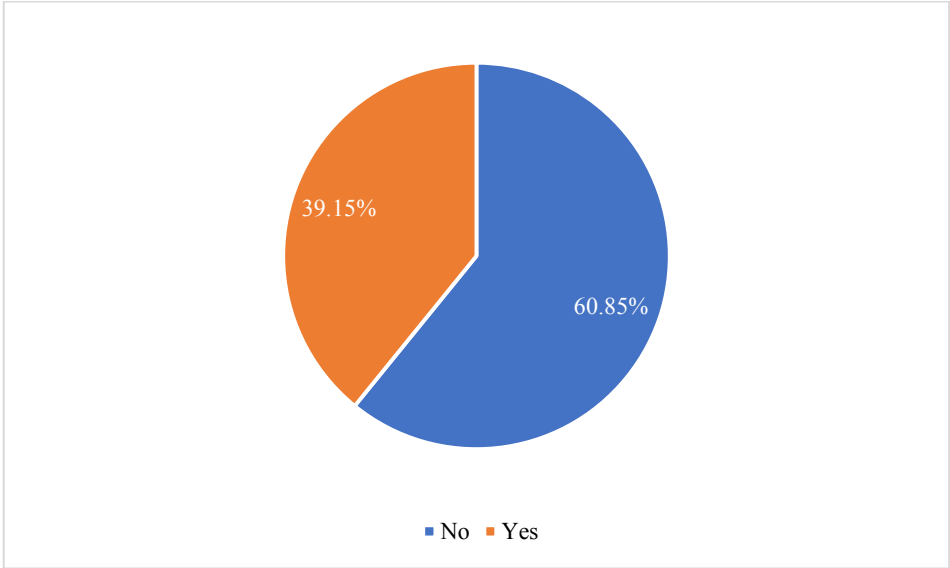


Fig. 13. Fuel depots’ opinions on changing the distribution system (N = 235)

Source: Own research.

The majority of respondents (60.85%) answered negatively, indicating that they do not see such a relationship. This result may reflect the limited transformational potential of the industry, stemming from a range of barriers, both technological and mental. Many fuel depots operate within a traditional distribution model based on direct customer relationships, often built over many years. In this context, personal sales and local distribution are seen as sufficiently effective and well-suited to the characteristics of the market and target group. Additionally, implementing online sales channels may involve investment costs and require reorganizing logistics and customer service processes, which may pose a barrier for smaller, traditional businesses.

On the other hand, 39.15% of respondents recognize the potential to increase competitiveness by changing the distribution system. These responses likely come from companies more open to innovation, viewing digitalization as an opportunity to expand market reach, improve product availability, and optimize sales processes. From this perspective, introducing online sales may be seen as a way to reach new customer segments, including younger generations who prefer remote shopping. It may also address the needs of customers located outside the immediate reach of traditional sales points.

The analysis of these results indicates a significant dichotomy among fuel depots: some remain attached to the conservative distribution model, treating it as a source of operational stability in an uncertain environment, while others seek opportunities in modern sales channels. This division may also reflect a transitional phase in the market – caught between the traditional way of operating and the need for transformation driven by technological and social changes. In this context, the future of distribution systems in the industry may depend on companies' ability to overcome adaptation barriers and leverage the opportunities offered by digitalization.

3.4.6. Discussion

The presented research results highlight the specific nature of distribution strategies in the declining coal market, where the dominance of stationary sales (97%) and telephone sales (84.7%) reflects a traditional approach to customer relationships. This trend supports Rosenbloom's [2013] thesis that during market decline phases, companies focus on maintaining key channels while eliminating less effective ones. The high share of direct sales also corresponds with the advantages of short distribution channels noted by Andelkovic and Radosavljevic [2020], such as reducing intermediary costs and building loyalty through direct contact.

The marginal use of online sales (11.5%) and intermediaries (14.5%) may be explained by weak institutional incentives [Benito-Osorio, Ángel Guerras-Martín, and Ángel Zuñiga-Vicente, 2012], such as the lack of regulatory support for digitalization, as well as the traditional profile of end customers who prefer personal contact. At the same time, a significant correlation between the type of customer and the choice of online and telephone channels (e.g., 23.1% of intermediary clients using e-commerce vs. 7.1% of end customers) confirms Gultinan's [1999] theory on the need to tailor strategies to the specificity of market niches. Intermediary customers, often more demanding in terms of efficiency, more frequently adopt remote purchasing methods, which aligns with Razak's [2024] "Blue Ocean" concept advocating competition avoidance through innovation.

The widespread offering of transport (99.1%), especially free transport (61.3%), serves as a competitive tool typical of declining markets, where customer loyalty is crucial. This strategy aligns with the observations of Hinterhuber and Liozu [2018], who emphasized the role of nonlinear pricing models (e.g., subsidizing additional services) in maintaining margins. Fast order fulfillment (83% within 24 hours) reflects logistical efficiency, whose importance in the declining phase of a product life cycle is highlighted by Miłosz [2017].

The dichotomy in procurement strategies, with 61.3% of depots maintaining stock and 38.7% ordering "just-in-time", illustrates a compromise between stability and flexibility. The former approach, typical of firms protecting themselves against demand fluctuations, corresponds with recommendations by Hamlin, Knight, and Cuthbert [2016] on active market scanning. The latter, characteristic of smaller entities, reflects efforts to minimize storage costs, consistent with Xu's [2009] analyses on supply chain optimization.

The limited willingness to change the distribution system (60.4% of companies see no benefits in digitalization) likely stems from institutional inertia [Benito-Osorio, Ángel Guerras-Martín, and Ángel Zuñiga-Vicente, 2012] and the dominance of traditional business relationships. However, 39.1% of depots recognizing opportunities in e-commerce point to gradual adaptation to trends, confirming Toften and Hammervoll's [2010] thesis on the role of long-term customer relationships in transforming business models.

The results confirm that effective distribution in a declining market requires a balance between tradition and innovation, consistent with the recommendations of Andelkovic and Radosavljevic [2020] and Rosenbloom [2013]. Key remains the adjustment of strategies to the heterogeneous needs of customers while managing costs and operational risks.

In summary, although fuel depots demonstrate considerable adaptability in organizing deliveries and servicing customers, especially through dominant stationary sales, fast order fulfillment, and widespread transport offerings, structural limitations such as low digitalization levels and attachment to traditional trade

relationship models still restrict the full utilization of innovative distribution channels' potential. The verification of hypothesis H1 confirms that customer type influences the choice of remote sales forms, suggesting the need for better alignment of distribution strategies with customer profiles. Further efforts should focus on developing online channels, improving logistics, and strengthening digital competencies to increase fuel depots' resilience to market pressure and facilitate their transformation toward more sustainable business models.

3.5. Verification of the effectiveness of promotional activities

In the declining and shrinking hard coal market, promotional activities gain particular importance as a tool to maintain competitiveness and sustain customer relationships. In the face of falling demand and increasing competition from alternative fuels, the way of communicating offers, building customer relationships, and promoting products becomes a key element of market strategy. This subsection is devoted to analyzing the forms of promotion used by coal distributors, including the use of local media, digital channels, loyalty programs, and presence on social media. Special attention is given to the frequency of offer updates and the perceived effectiveness of marketing activities. Finally, the verification of hypothesis H2 will be presented, which assumes that the type of promotional activities used influences the assessment of marketing effectiveness.

3.5.1. Promotional activities in a declining market – preferences of coal distributors

In the context of a declining market, where demand for traditional fuels is steadily decreasing and competition is intensifying, promotional activities may play a crucial role in strategies to maintain market position. In a survey directed at coal suppliers, respondents were asked: “Which promotional activities do you use most frequently?” The aim of this question was to identify how distribution companies communicate their offerings and how they adapt promotional tools to changing market conditions (Fig. 14).

The most frequently indicated form of promotion was advertising (43.8%). This response confirms the ongoing significant role of traditional media, such as local newspapers, radio, and regional television, in the marketing communication of coal suppliers. Such activities allow reaching a wide audience, especially in local communities where coal suppliers have an established position. For many companies, advertising remains the primary tool for building brand recognition and reminding customers about their offerings during the heating season.

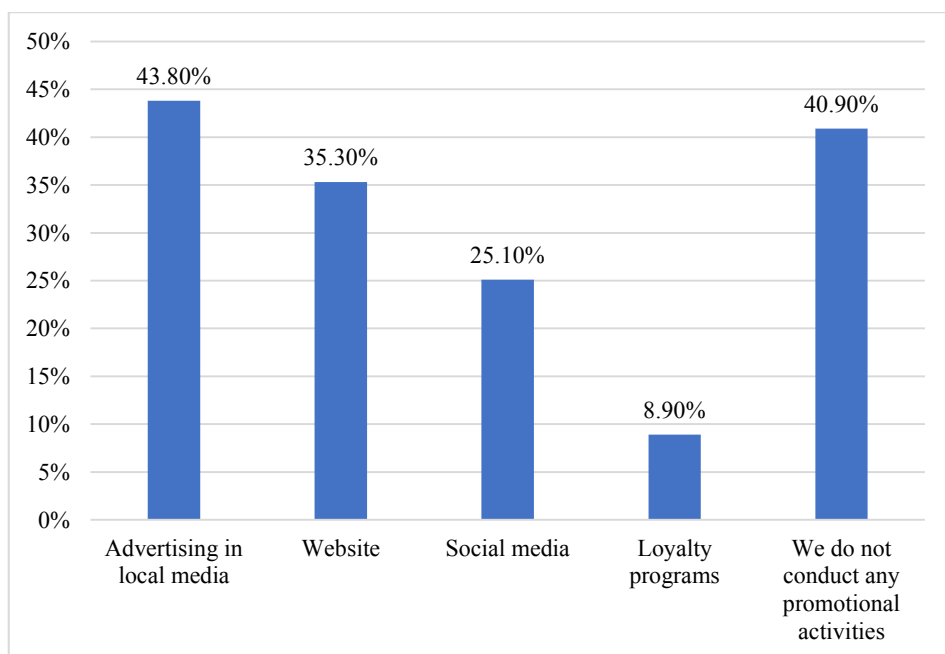


Fig. 14. Promotional activities used by fuel depots (N = 235)

Source: Own research.

In second place was online presence (35.3%). This result reflects the growing awareness of the importance of digital presence, primarily having a website that serves as a company's business card, a source of product information, and a channel for initial customer contact. Although not yet a dominant form of promotion, the increasing number of suppliers investing in online tools indicates the industry's gradual adaptation to contemporary market requirements.

Promotion via social media, indicated by 25.1% of respondents, confirms the rising interest in communication possibilities offered by platforms such as Facebook or Instagram. Although still less common than traditional advertising or classic online presence, activity on social media is becoming an important channel for building customer relationships and expanding reach at relatively low costs.

The least utilized form of promotion turned out to be loyalty programs (8.9%). This may be due to the nature of the coal market, which often relies on one-time or seasonal transactions rather than regular and frequent customer contact. For this reason, investments in long-term loyalty mechanisms are less attractive to many distributors.

At the same time, as many as 40.9% of respondents declared that they do not conduct any promotional activities. This result may be interpreted in several ways. First, it may indicate a lower level of competitiveness in some local markets, where personal relationships and customer trust are key, and marketing seems unnecessary.

Second, it may reflect limited financial and competence resources of companies that are not prepared to systematically carry out promotional activities. Finally, it may be a manifestation of the belief that in the declining phase of market development, investments in promotion do not bring measurable effects.

Although traditional advertising still dominates the promotional activities of coal suppliers, gradual digitalization of marketing communication is also visible. The diversity of tools used indicates varied approaches to promotion, from conservative, through moderately adaptive, to more innovative. In the context of a continued decline in demand, effective and locally adapted promotion may prove to be a factor supporting the competitiveness of suppliers operating in the declining market.

3.5.2. Presence of fuel depots on social media – adaptation to digital forms of communication

In the context of a declining market, where traditional forms of sales and promotion are gradually transforming, social media represent one of the tools enabling companies to maintain contact with customers and build their image in the digital environment. In the conducted survey, respondents were asked: “Do you have a profile on social media (e.g., Facebook, Instagram)?”. The aim of the question was to determine the level of coal suppliers’ engagement in modern communication channels and to identify their strategies regarding the digitalization of customer relationships (Fig. 15).

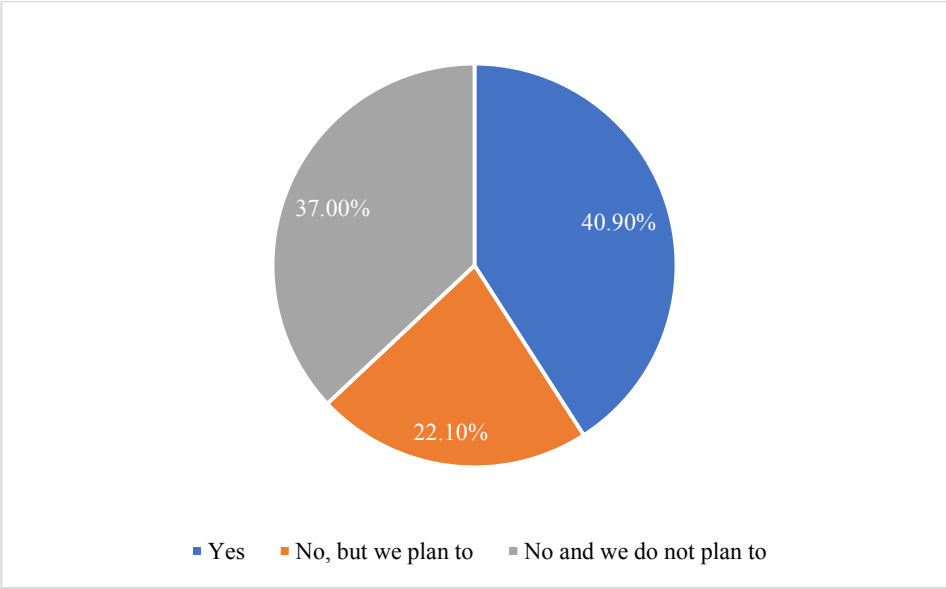


Fig. 15. Presence of social media profiles among fuel depots (N = 235)

Source: Own research.

Analysis of the results shows that 40.9% of respondents maintain a profile on social media. This indicates a relatively large group of companies actively using digital tools to promote their offerings, build customer relationships, and strengthen brand presence. These activities may include informing about product availability, seasonal promotions, and posting content engaging local communities. Thus, having a social media presence becomes an important element of coal suppliers' adaptation to changing consumer expectations and the growing importance of the internet as an information and sales channel.

Another group of respondents (22.1%) reported not having a social media profile but expressed an intention to create one in the future. This may signal growing awareness of the role of social media in marketing communication, although some companies still hesitate to digitalize due to limited resources, both financial and skill-based. Effective online presence requires not only time but also knowledge of tools and strategies to reach the target audience successfully.

Meanwhile, 37% of coal suppliers admitted they neither maintain a social media profile nor plan to start one. This response may stem from the belief that traditional customer contact methods, such as direct relationships, word-of-mouth marketing, or local announcements, are sufficient and effective in the coal industry. For many suppliers operating in smaller towns, where social networks are deeply rooted, social media might be seen as unnecessary or inefficient.

Although social media is not yet a widely used communication channel among coal suppliers, there is a gradual increase in interest in its potential. Companies that engage on social platforms gain new opportunities to connect with customers and stand out from competitors. At the same time, absence from these platforms does not necessarily mean a weak market position, as in the declining market, local relationships, reputation, and customer loyalty to trusted suppliers still play a significant role.

3.5.3. Frequency of online offer updates – diverse approaches to digital marketing in a declining market

In the context of the growing role of the Internet as a communication and sales channel, the frequency of updating offers on websites and social media may serve as an important indicator of companies' marketing activity. In a survey conducted among coal distributors operating in a declining market, respondents were asked how often they update their online offers (Fig. 16).

The results show that 18.7% of respondents update their offers at least once a week, indicating a high level of engagement in online communication. Regular updates may be part of a strategy aimed at attracting customers, building trust, and responding to changing market conditions such as seasonal demand fluctuations, price changes, or product availability.

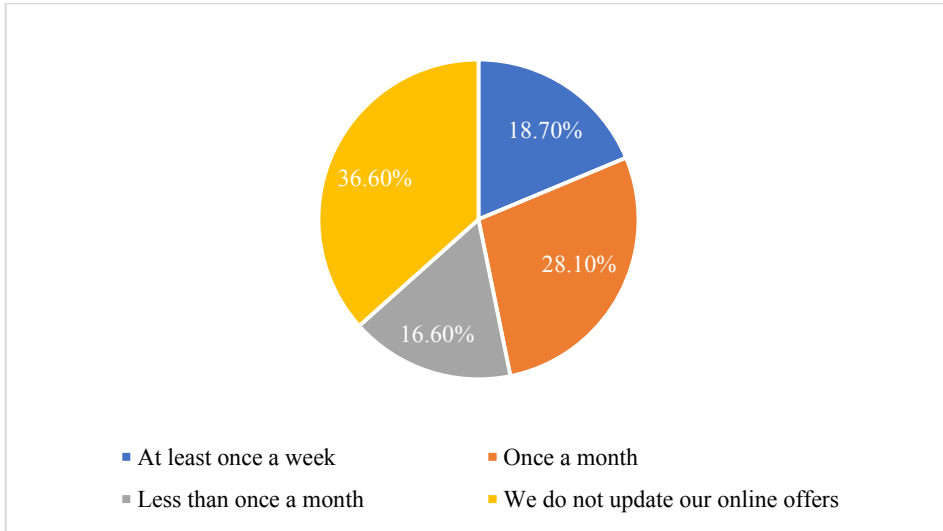


Fig. 16. Frequency of updating offers on social media and websites among fuel depots (N = 235)

Source: Own research.

Another group, comprising 28.1% of respondents, indicated that they update their offers once a month. Although less frequent than weekly updates, this approach may still be considered a sign of marketing activity and a willingness to maintain contact with customers through digital channels.

On the other hand, 16.6% of respondents admitted to updating their offers less than once a month. This attitude may result from limited resources, both financial and organizational, or from a lack of a coherent online presence strategy. These companies may treat their website or social media profile as a one-time business card rather than a dynamic communication tool.

The largest group, accounting for 36.6% of respondents, declared that they do not update their online offers at all. This means that over one-third of coal distributors do not engage in active online operations, possibly due to their attachment to traditional sales and communication methods, such as direct customer contact, phone orders, or relationship-based local marketing. For these companies, the Internet does not play a significant role in their business operations, which may be understandable given the declining market context but simultaneously limits their ability to attract new customers outside their established client base.

The findings indicate significant heterogeneity in approaches to online marketing. While some fuel depots intensify their online presence, others remain passive or operate sporadically. The lack of systematic online offer updates may pose a barrier to enhancing the competitiveness of these firms, especially as consumer behavior changes and the importance of information available online continues to grow.

3.5.4. Customer interest in ecological aspects – an underutilized communication potential

As part of a study conducted in a declining market, coal distributors were asked: “Do customers inquire about the ecological aspects of coal combustion?” (see Fig. 17). The purpose of the question was to determine the extent to which topics related to environmental protection and pollution emissions arise in direct interactions between sellers and customers.

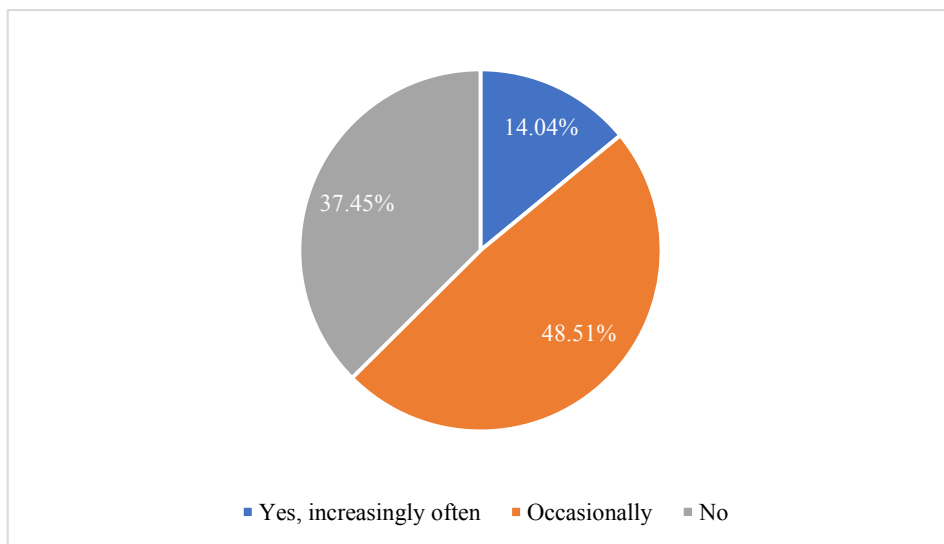


Fig. 17. Frequency of customer inquiries about ecological aspects (N = 235)

Source: Own research.

The results show that only 14% of respondents regularly encounter customer questions regarding the ecological aspects of coal combustion. A significantly larger group – 48.5% of respondents – states that such questions arise occasionally, while 37.4% of distributors have not observed any interest in this topic from their customers at all.

These results suggest that despite the growing presence of alternative fuels in the coal supply offers, such as pellets, wood, or Blue Coal, the topic of emissions and environmental impact is not yet a significant part of everyday commercial communication. On one hand, this may reflect customers’ entrenched habits, for whom price and fuel availability remain more important than its environmental impact. On the other hand, the low level of initiative in addressing ecological topics on the sellers’ side may constitute a barrier to spreading awareness and promoting more sustainable heating solutions.

The lack of systematic communication regarding ecology means a missed educational and image-building opportunity. In the context of gradual energy transformation, where consumers increasingly seek alternatives with a lower carbon footprint, incorporating information about emissions, fuel type, and its environmental impact could provide a competitive advantage. Moreover, regularly addressing such topics may influence the development of pro-environmental attitudes among customers and accelerate the transition to low-emission heating sources.

Therefore, it is recommended that fuel depots consider incorporating ecological issues into their standard sales procedures – as part of customer conversations, informational materials, or offer presentations. Even with limited interest from customers, proactive communication in this area may contribute to changing the perception of coal and other solid fuels, as well as to building a more responsible company image.

3.5.5. Self-assessment of marketing effectiveness – moderate optimism with room for improvement

As part of the study, fuel distributors were asked: “How do you evaluate the effectiveness of your marketing activities over the past year?” (Fig. 18). The aim of this question was to assess the level of satisfaction companies have with their promotional effort and to identify areas in need of improvement.

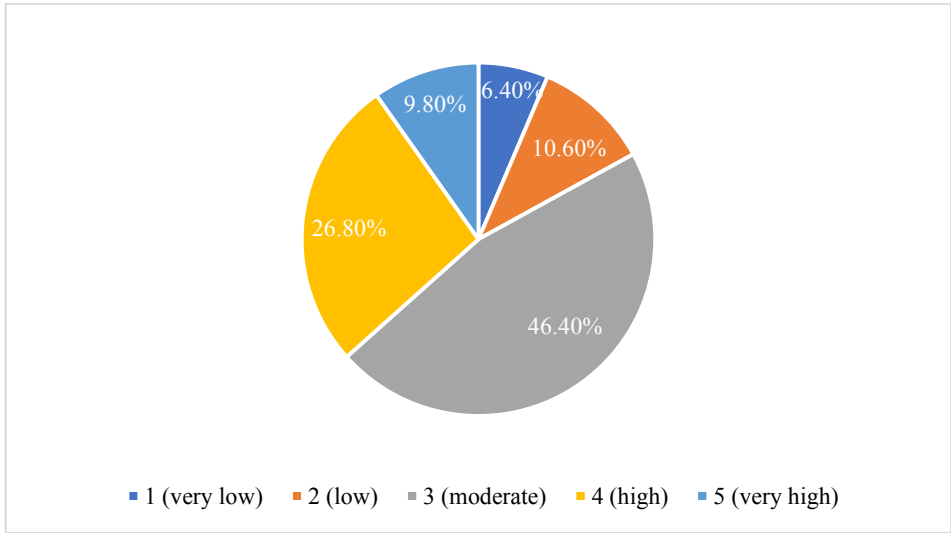


Fig. 18. Evaluation of marketing effectiveness by fuel depots (N = 235)

Source: Own research.

The analysis of responses indicates that the majority of fuel depots (46.4%) rate their marketing activities as moderately effective (a score of 3 on a 1–5 scale). Just over a quarter of companies (26.8%) gave themselves a high score (4), while only 9.8% of respondents consider their efforts to be very effective (score 5). On the other hand, 17.0% of distributors rated their activities as low or very low (scores 1–2), suggesting dissatisfaction with the outcomes of their marketing efforts.

The moderate level of self-assessment suggests that despite undertaking various promotional initiatives, ranging from traditional advertising and online presence to loyalty programs, many companies do not perceive clear results from their efforts. This may reflect the challenging realities of a declining market, where demand for coal is steadily decreasing and competition from low-emission fuels is increasing. An additional challenge remains the limited number of new customers and relatively low flexibility in shaping pricing policy.

In light of these challenges, it is advisable to optimize marketing strategies by using more advanced analytical tools. It is recommended to regularly monitor data related to website traffic, the effectiveness of individual communication channels, and social media conversions. An important direction is also customer segmentation, for example, based on their attitude toward environmental issues, which allows the marketing message to be tailored to different audience groups.

In addition, it is worth implementing regular A/B testing of promotional campaigns, which allows for empirical comparison of the effectiveness of different message variants and advertising formats. Investments in developing the skills of employees responsible for marketing activities may also be highly valuable, through training in areas such as digital marketing, content marketing, or advertising platform management.

Given the above self-assessments of marketing effectiveness, hypothesis H2 was tested. This hypothesis assumed that the type of promotional activities influences the perceived effectiveness of marketing. To examine the impact of various forms of promotion (question 17) on the evaluation of marketing effectiveness (question 21), an ordinal regression was conducted (PLUM procedure in SPSS). The model used a logit link function and included 235 complete observations.

The model as a whole was statistically significant: the -2 log likelihood decreased from 167.820 to 149.085 ($\chi^2 = 18.735$; $df = 5$; $p = 0.002$). Goodness-of-fit tests (Pearson and Deviance) were non-significant ($p = 0.160$; $p = 0.219$), indicating a good fit. The pseudo R^2 values were: Cox & Snell = 0.077, Nagelkerke = 0.082, and McFadden = 0.030.

Table 15. Estimates of ordinal regression parameters

Variable	B coefficient	Standard error	Wald value	<i>p</i> -value	Interpretation
Advertising	−0.392	0.335	1.369	0.242	not significant
Website	−0.353	0.309	1.307	0.253	not significant
Social media	−0.309	0.320	0.933	0.334	not significant
Loyalty programs	−1.025	0.435	5.545	0.019	significant
No promotions	0.091	0.397	0.052	0.819	not significant

Source: Own research.

As a result of the conducted ordinal regression analysis (Table 15), it was determined that, among all the examined forms of promotion, only the use of loyalty programs shows a statistically significant impact on the evaluation of marketing effectiveness. The regression coefficient for this variable was −1.025 with a significance level of $p = 0.019$, indicating significance at the 5% level. The negative coefficient suggests that the absence of loyalty programs in coal suppliers is associated with lower ratings of marketing effectiveness. In other words, companies that implement loyalty programs have a greater chance of achieving higher evaluations of their promotional efforts.

Other analyzed forms of promotion, such as advertising in local media, having a website, activity on social media, and the absence of promotional activities, did not show a statistically significant effect on the dependent variable, i.e., the assessment of marketing effectiveness. The coefficients for these variables were not significant at the 5% level ($p > 0.05$), meaning that their presence or absence does not lead to significant changes in the evaluation of marketing effectiveness. These results suggest that in the declining hard coal market in Poland, traditional forms of promotion may be less effective in building a positive marketing image than more customer-oriented strategies such as loyalty programs.

The analysis results indicate that among all forms of promotion, only loyalty programs have a statistically significant, positive effect on the assessment of marketing effectiveness, confirming the value of building long-term customer relationships through discount systems or loyalty cards. Other channels, traditional advertising, online presence, and social media activities, did not show a significant relationship with the self-assessment of promotional efforts. The low R^2 value of the model (8.3%) simultaneously suggests that marketing effectiveness also depends on factors beyond the choice of promotional channel, such as customer service quality, delivery logistics, or product innovation. For managerial practice, it is therefore crucial to focus resources on developing loyalty programs while simultaneously improving other elements of the marketing mix to maximize the overall strategy's effectiveness.

3.5.6. Discussion

The presented research findings illustrate the complexity of promotional strategies in the declining coal market, where the dominance of traditional advertising (43.8%) and online presence (35.3%) reflects a preference for well-established methods. This trend confirms the observations of Keswani and Khedlekar [2024], who emphasized the importance of maintaining brand visibility in conditions of declining demand. At the same time, the low use of social media (25.1%) and loyalty programs (8.9%) points to the untapped potential of tools recommended by Tripathi [2018] and Chan & Ho [2017]. This discrepancy suggests that companies continue to rely on passive models despite evidence supporting the effectiveness of more interactive forms of customer engagement [Ahmad, Musa, and Harun, 2016; Lestari, Kurniasari, and Susanto, 2023].

A statistically significant impact of loyalty programs on the assessment of marketing effectiveness (coefficient $\beta = -1.025$; $p = 0.019$) confirms the theses of Agarwal et al. [2024] and Desty and Amantie [2024] regarding the crucial role of building long-term customer relationships. The fact that only 8.9% of companies implement such programs indicates a gap in CRM strategy implementation, which limits the ability to stabilize revenues in conditions of declining demand.

The low frequency of customer inquiries about ecological aspects (14% of regular inquiries) contrasts with the high availability of low-emission fuels in the product offerings. This result suggests insufficient pro-environmental communication, which contradicts the recommendations of Li and Fan [2023] as well as Miller, Merrilees, and Yakimova [2014], who view rebranding and customer education as elements that may extend the product life cycle. The lack of initiative in this area may hinder product assortment transformation, especially in the context of increasing environmental requirements.

Moderate self-assessment of marketing effectiveness (46.4% neutral evaluations) reflects challenges typical for declining markets, where traditional methods are losing their effectiveness. This result aligns with the analyses of Marcelinus et al. [2023], who indicated that successful rebranding requires a holistic approach, combining image change with active communication. However, the low R^2 value of the model (8.3%) confirms that marketing effectiveness also depends on non-promotional factors such as service quality and logistics [Marques et al., 2020].

The results confirm that effective promotion in declining markets requires synergy between tradition and innovation. It is crucial to adapt strategies to evolving customer expectations, which is consistent with the recommendations of Agarwal et al. [2024] and Miller, Merrilees, and Yakimova [2014]. Actions should focus on building lasting relationships, ecological education, and flexible use of digital tools.

In summary, although fuel depots show partial adaptation to changing market realities – e.g., through online presence and limited activity on social media – the dominance of traditional forms of promotion and the low use of loyalty programs indicate a conservative approach to marketing. The verification of hypothesis H2 confirmed a significant relationship between the implementation of loyalty programs and higher ratings of promotional effectiveness, emphasizing the importance of long-term customer relationships in a declining market. Systemic barriers such as limited resources, low digitization, and insufficient pro-environmental communication hinder effective promotion of innovative fuels. Future efforts should focus on customer education, integration of digital tools, and implementation of measurable CRM strategies to align promotional activities with changing market and environmental expectations.

3.6. Strategy and market environment

The coal market in Poland is currently undergoing a profound transformation driven by regulatory and technological changes, increasing social pressure, and rapidly evolving consumer preferences. In light of these challenges, the operation of fuel depots is becoming increasingly difficult, and the strategic decisions made by business owners are gaining exceptional importance. The analysis of responses obtained in the study provides insight into how companies assess their current situation, how they perceive the future of the industry, and what actions they plan to undertake in the coming years.

This subsection is dedicated to the verification of research hypotheses concerning the relationships between selected market, institutional, and environmental factors and the strategic decisions made by fuel distributors. The results of statistical analyses will be presented – including chi-square tests and measures of association strength – related to such issues as product diversification, customer-driven ecological pressure, access to financial support, and the impact of sales volume on strategic choices. The section concludes with a summary assessment of the confirmation or rejection of individual hypotheses, with particular emphasis on the practical implications for the industry.

3.6.1. Future outlook for the hard coal market – pessimism as the dominant sentiment among distributors

The respondents – owners and representatives of fuel depots – were asked to assess the future of the hard coal market in Poland over a five-year horizon. The collected responses were compared with their subjective evaluation of the

current economic situation of their business operations (Fig. 19). The aim of this question was to determine the extent to which distributors perceive the downward trends as lasting and what market development scenarios they anticipate.

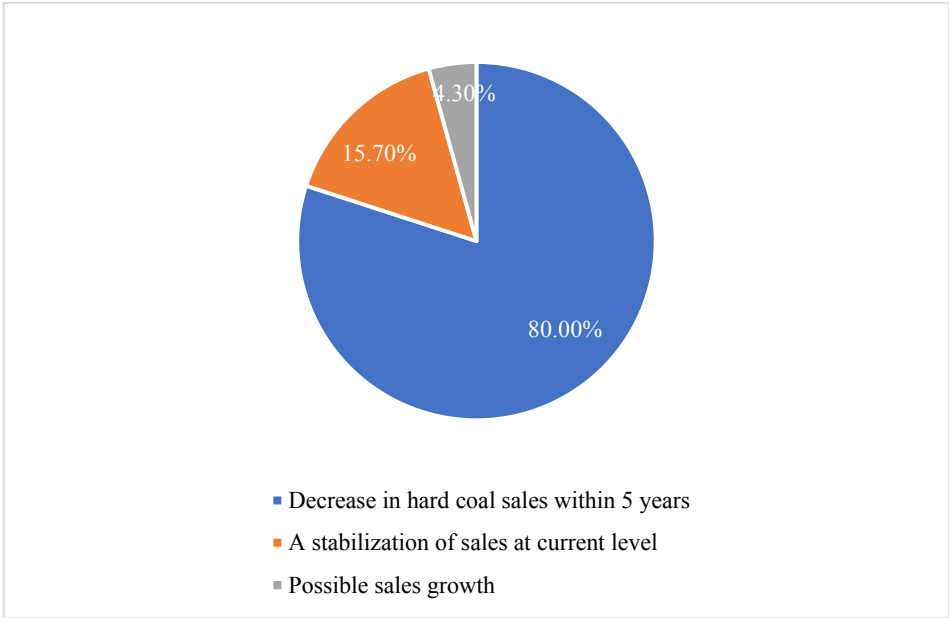


Fig. 19. Assessment of the future of the hard coal market (N = 235)

Source: Own research.

The vast majority of respondents (80.0%) forecast a continued decline in hard coal sales. Such a high percentage indicates a well-established belief in the lasting nature of changes driven by both regulatory factors (e.g., tightening emission standards) and market dynamics, such as the growing popularity of renewable energy sources, the expansion of gas networks, and increasing consumer environmental awareness. As entities closely linked to end users, fuel depots serve as a kind of barometer of market sentiment, making their perspective particularly valuable.

A stabilization of sales at current levels is anticipated by 15.7% of respondents. Although this is a relatively small group, its presence may indicate the existence of stable market niches, such as areas without access to alternative energy sources or among customers reluctant to change heating systems due to financial or technological constraints.

Only 4.3% of respondents expect sales growth, which should be considered a marginal phenomenon. This outlook may stem from hopes for short-term disruptions in the supply of alternative energy carriers, unexpected regulatory changes, or specific local conditions favoring sustained demand for coal.

It is worth noting that regardless of respondents' subjective assessment of their enterprise's current financial condition, the majority of market forecasts are pessimistic in nature. This may reflect a high level of awareness among respondents of the structural changes occurring within the Polish energy sector, driven by both long-term decarbonization trends and the challenges of European Union climate policy.

3.6.2. Customer outflow towards alternative heat sources – distributors' perspective

In one of the survey questions, respondents were asked to assess the phenomenon of customer migration towards alternative heating sources, such as heat pumps, gas installations, or photovoltaic-based systems (Fig. 20). The purpose of this question was to identify the scale of the energy transition from the perspective of coal distributors – entities positioned at the intersection of the conventional fuel market and the preferences of end consumers.

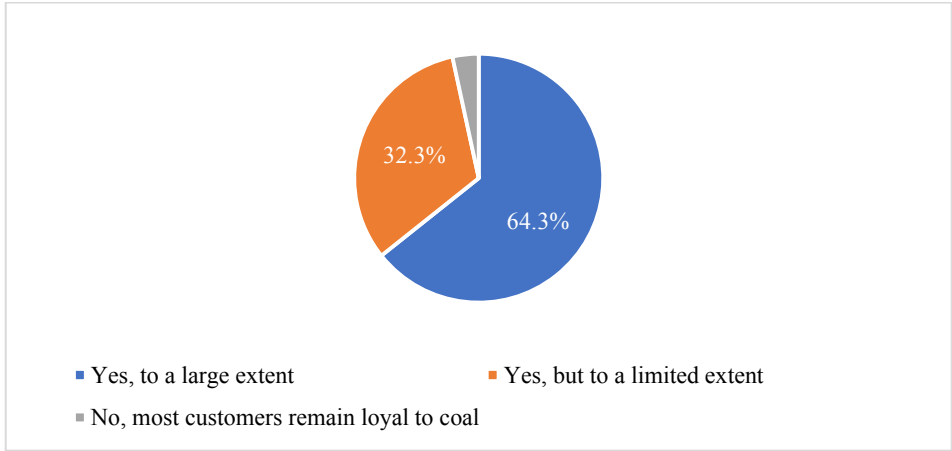


Fig. 20. Perception of customer outflow towards alternative heating sources (N = 235)

Source: Own research.

A clear majority of respondents (64.3%) perceive the outflow of customers to alternative heating sources to a large extent, while an additional 32.3% observe it to a limited extent. Altogether, 96.6% of respondents confirm the existence of a migration trend toward more modern and less emission-intensive heating solutions. Only 3.4% of participants indicate that their customers predominantly remain loyal to coal as their primary heat source. This low percentage may reflect particular local conditions, such as the absence of technological alternatives, strong consumer habits, or lower ecological sensitivity, but it also confirms the marginality of such attitudes on a nationwide scale.

The results unequivocally confirm the ongoing nature of the energy transition and its significant impact on the declining hard coal market. Companies operating in this sector increasingly recognize the need for adaptive measures, both in the form of product diversification (e.g., sales of pellets, firewood, “Blue Coal,” or boilers adapted to new fuels) and in the form of a complete change in business profile. Failure to respond to the changing environment may lead to the loss of the customer base and gradual erosion of market position.

3.6.3. Diversification plans – strategic responses of fuel depots to the changing environment

The respondents were asked whether they plan to undertake actions in the coming years aimed at expanding their product or service offerings – in other words, to diversify their business activities. The question aimed to identify the level of readiness among companies to adapt amid structural changes occurring in the solid fuels market.

The results indicate a clear proactiveness among firms operating in the hard coal sector. As many as 68.1% of fuel depots declare an intention to diversify their activities in the near future, reflecting a growing awareness of the need to adjust to new market conditions. Only 31.9% of respondents do not plan to introduce any changes regarding their offered products or services.

Such a high percentage of companies considering modifications to their business models suggests that entrepreneurs view diversification as a key element of survival strategy in the context of a shrinking coal market. Potential directions for change include introducing alternative fuels (e.g., pellets, wood, briquettes), selling heating devices based on modern technologies, developing installation services, or providing energy consulting.

These declarations should be interpreted as a sign of striving to increase market resilience and reduce risks associated with the continued decline in demand for traditional fuels. They also open space for further research, for example, analyzing which forms of diversification prove most effective in practice and identifying the barriers entrepreneurs face when implementing new business models.

3.6.4. Changes in customer preferences and availability of external support – factors influencing the transformation directions of fuel depots

In the next question, respondents were asked whether they had observed changes in customer preferences, for example, increasing interest in standard peas coal or alternative fuels. The results indicate that the majority of fuel depots

recognize shifts in consumer purchasing behavior. Over half of the respondents (58.3%, n = 137) reported growing interest in more environmentally friendly fuels such as eco-pea coal, pellets, or other low-emission options. Conversely, 41.7% (n = 98) did not observe significant changes, indicating the continued dominance of traditional coal products.

This discrepancy suggests that the market is currently in a transitional phase – on one hand, signals of changing consumer preferences are evident, while on the other, there remains a strong attachment to traditional heating sources. Factors such as heating infrastructure, customer habits, regional fuel availability, and pricing issues may delay the full transformation of demand.

Respondents were also asked whether their company had utilized any form of financial support, such as grants, tax reliefs, or other instruments aimed at modernizing operations or introducing new products. The data clearly show minimal use of such tools: as many as 96.6% of fuel depots did not receive any external support, with only 3.4% confirming that they had obtained financial assistance.

Several reasons may explain this situation. First, there is a lack of dedicated programs tailored to the needs and specifics of this declining market. Second, many companies may be unaware of available funding opportunities or lack the appropriate staff capacity to successfully apply for support. Formal barriers limiting access to public assistance are also possible.

The absence of mechanisms supporting transformation may significantly hinder fuel depots' ability to adapt and implement more sustainable solutions. From a public policy perspective, these findings highlight the need for systemic support of transformation processes in sectors facing decline if the goal is a fair and inclusive energy transition.

3.6.5. Perception of key factors influencing the future of fuel depots operations

Respondents were also asked to indicate the factors that, in their opinion, will most significantly determine the future of their fuel depots. The results presented in Fig. 21 provide important insights into the structure of perceived risks and challenges.

The most frequently indicated factor was changes in the regulatory and tax environment – as many as 50.6% of respondents considered these the most important for the future of their business. This high sensitivity likely results from increasing pressure related to climate policy and successive stages of the energy transition, which translate into new administrative obligations, emission limits, and increased operating costs due to additional fiscal burdens.

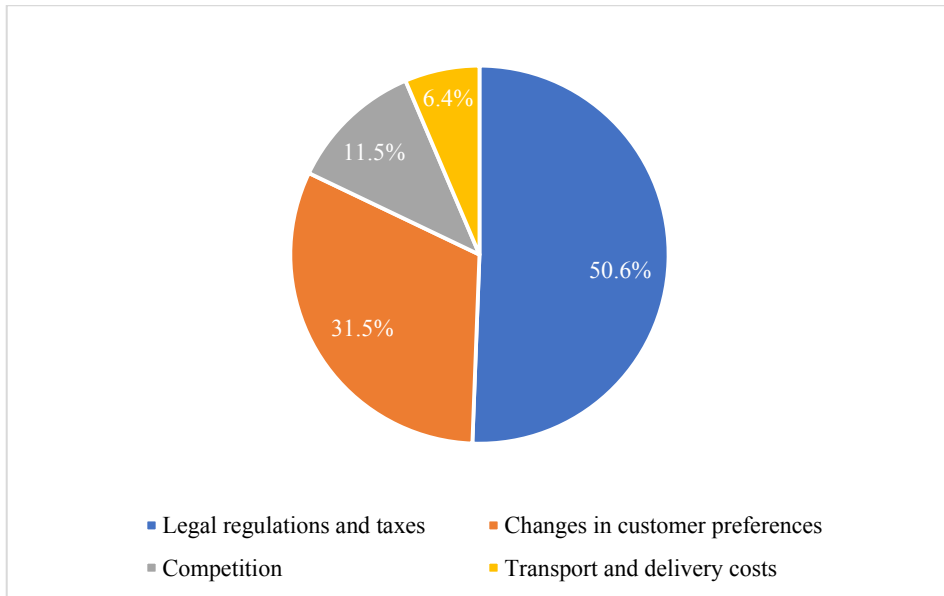


Fig. 21. Factors influencing the future of fuel depots (N = 235)

Source: Own research.

The second most significant factor was changes in customer preferences, indicated by 31.5% of respondents. This result confirms growing consumer awareness and a shift away from traditional fuels towards more ecological solutions, which directly threatens the established business model of many fuel depots.

Relatively low importance was attributed to competition, which was considered a key factor by only 11.5% of respondents. This may reflect a limited number of players operating in local markets or that macroeconomic and systemic factors, rather than market competition, currently have the greatest influence on the conditions in which companies in this sector operate.

The lowest importance was given to transport and delivery costs, which only 6.4% of respondents identified as significant for the future of their business. This suggests their relative stability or lesser significance in the cost structure, especially compared to regulatory uncertainty and demand changes.

In summary, empirical data confirm that the future of fuel depots will be largely determined by external factors, particularly legal-regulatory and social ones. This implies the necessity for companies to actively adapt to changing environmental conditions, both by modernizing their offerings and by developing adaptive capabilities.

3.6.6. Adaptive actions undertaken by fuel depots in response to market changes

In view of the declining demand for hard coal, the intensifying energy transition, and growing competition from alternative heat sources, coal depot owners are undertaking various actions aimed at adapting to the new market realities. Respondents were asked about specific strategies being implemented in response to the ongoing changes (Fig. 22).

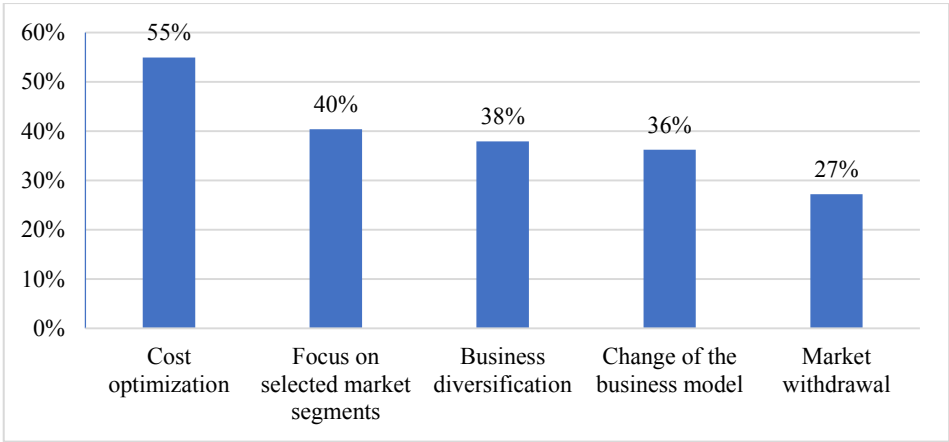


Fig. 22. Actions taken by fuel depots in response to market changes (N = 235)

Source: Own research.

The most frequently indicated response was **cost optimization**, declared by 54.9% of respondents. This action should be interpreted as a basic and relatively safe way to increase operational efficiency amid declining revenues and environmental instability.

The second most common response was **focusing on selected market segments** (40.4%), which may indicate attempts at specialization and identifying niches that still offer relatively stable demand. Such an approach may increase the effectiveness of marketing and operational activities under conditions of limited resources.

Meanwhile, 37.9% of respondents declared **diversification of activities**, i.e., introducing new products or services to their offer. Although this action is more proactive, its implementation requires greater investment and competencies, which may limit its popularity among smaller companies.

A change in the business model was indicated by 36.2% of respondents, suggesting that some entrepreneurs recognize the need for deeper organizational transformation, although generally this is a more complex and risky action. **Withdrawal from the market** was considered or already initiated by 27.2% of

respondents – this result confirms that for some fuel depots adaptation may prove too costly or impossible under current conditions.

The actions taken by fuel depots are mostly defensive – cost reduction and concentration strategies dominate, while offensive actions such as diversification or business model change are less common. This indicates cautiousness among entrepreneurs and limited resources that hinder quick adaptation to the dynamically changing market environment.

3.6.7. Adopted operation strategies in the coming years

To understand the strategic directions adopted by entrepreneurs amid the energy transition, respondents were asked which statement best describes their approach to conducting business in the coming years (Fig. 23).

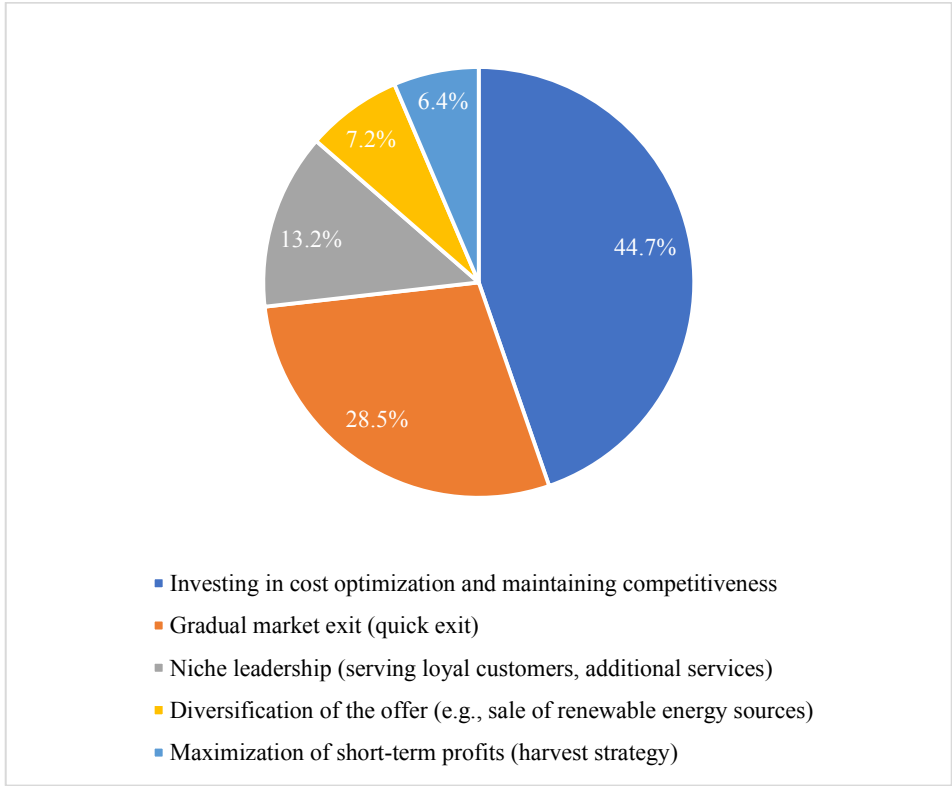


Fig. 23. Adopted strategy for the coming years (N = 235)

Source: Own research.

The obtained data reveal a significant diversification of strategic attitudes among coal yard owners. The largest group, 44.7% of respondents, declared their intention to continue operations while maintaining competitiveness through cost optimization. This strategy has a clearly defensive character, signaling a focus on survival, preserving margins, and avoiding costly investment decisions.

A substantial portion, 28.5%, considered a quick exit strategy from the market, meaning they plan to phase out operations in the coming years. Another 6.4% indicated a “harvest” strategy, aiming to maximize short-term profits before ultimately closing the business. Altogether, over one-third of entrepreneurs do not see their future in the coal trade industry, reflecting a deeply rooted sense of market decline.

Offensive strategies involving active adaptation to the new environment were much less frequently indicated. Only 7.2% of respondents declared a diversification strategy, such as expanding their offer to include renewable energy sources. Slightly more, 13.2%, opted for a niche leadership strategy, focusing on loyal customers and additional services. This low level of pro-innovation declarations may result from limited financial and organizational resources, uncertainty about the market’s future, and lack of adequate institutional and systemic support.

The collected data clearly indicate that the majority of coal yards are currently in a phase of strategic defense. Entrepreneurs focus on cost minimization, servicing narrow market segments, or preparing to exit the business. Few players show readiness for proactive adaptation through innovation and development. Such a strategic posture may, in the long run, hinder the sector’s smooth adjustment to the conditions of the new energy order.

The study’s conclusions strongly confirm the entrenched perception of the coal market’s decline, which influences both the industry’s future outlook and current company decisions. The anticipated sales decline, customer migration toward more ecological heat sources, and limited access to external financing paint a picture of a market demanding urgent adaptive actions. In this context, the development of systemic support mechanisms for companies operating in the declining market seems essential, so that the energy transition process may proceed in a fair, inclusive, and sustainable manner.

This subsection presents the verification results of four research hypotheses aimed at identifying significant factors influencing the strategic decisions of coal yards in Poland in the context of market, environmental, and institutional changes. Below are detailed results for each hypothesis, including test statistics, significance levels, and practical interpretations of the findings.

3.6.8. The impact of planned diversification on the offer of alternative fuels

Hypothesis H4 stated that fuel depots planning to diversify their business more frequently offer alternative fuels. To verify this hypothesis, a contingency table analysis (Table 16) and Pearson's chi-square test were used.

Table 16. Alternative fuels vs. planned diversification (n = 235)

Alternative fuels	No	Yes	Total
Yes	39	133	172
No, but we plan to	10	19	29
No and we do not plan to	26	8	34
Total	75	160	235

Source: Own research.

The χ^2 test ($\chi^2(2) = 37.910, p < 0.001$) and likelihood ratio test ($\chi^2 = 35.716, p < 0.001$) confirmed a significant relationship between offering alternative fuels and plans for diversification. Measures of association strength ($\phi = 0.402$; Cramér's $V = 0.402$) indicate a strong effect.

The results clearly support hypothesis H4: depots planning diversification more frequently introduce alternative fuels into their offer (77.3%) than those not planning diversification (23.5%). Even in the group "No, but we plan to", the share of alternative fuel suppliers reaches 65.5%, indicating a close link between the intention to expand business and implementing innovative product solutions.

Companies planning diversification should promptly expand their offer to include alternative fuels such as pellets, briquettes, or wood to build competitive advantage and respond to increasing market expectations. Supporting this process with investments in infrastructure, expanding warehouses and technological lines, is crucial to enable smooth implementation of the new assortment and optimize logistics.

Simultaneously, marketing communication should be strengthened by highlighting the ecological benefits of alternative fuels in advertising materials and online, accelerating their acceptance and enhancing the company's image as an innovator. The effectiveness of selling new products will increase with training the sales team, who should actively promote them among existing customers.

The entire process should be supported by systematic monitoring of sales results and customer satisfaction, enabling flexible adjustment of the offer and pricing policy. Implementing these actions will allow fuel depots to transition smoothly and efficiently to a diversified offer model, which is essential in the context of declining demand for hard coal and the growing importance of eco-friendly solutions.

3.6.9. Customer ecological pressure and the choice of market strategy

Hypothesis H6 assumed that companies receiving increasing numbers of customer inquiries about ecological aspects would more frequently plan a gradual withdrawal from the coal depot market (“quick exit strategy”). To verify the relationship between customer pressure regarding ecological aspects of coal combustion and the choice of business strategy by fuel depots, a contingency table analysis was conducted (Table 17). The analysis included all 235 valid observations. The variables analyzed were: responses to the question about the frequency of customer questions concerning ecological issues (Question 20) and the declared strategy of the coal depot’s operations in the coming years (Question 29).

Table 17. Ecology and operation strategies (n = 235)

Operation strategy	Yes, increasingly often	Occasionally	No	Total
We will invest in cost optimization and maintaining competitiveness (position maintenance strategy)	18	54	33	105
Our goal is to maximize short-term profits before possibly closing the business (harvest strategy)	4	1	10	15
We plan a gradual withdrawal from the coal market (quick exit strategy)	4	35	28	67
We focus on developing and diversifying the offer, e.g., selling renewable energy sources (diversification strategy)	3	9	5	17
We aim to dominate a niche by focusing on serving loyal customers and offering additional services (niche leadership strategy)	4	15	12	31
Total	33	114	88	235

Source: Own research.

The cross-tabulation revealed a varied distribution of responses: fuel depots frequently asked about ecological aspects more often declared a strategy of maintaining their position (18 responses), but also noticeably more often than other groups chose diversification strategies (3 responses) and niche leadership (4 responses). Among depots that sporadically or never received questions about ecology, the dominant strategies were quick exit and harvesting, focused on maximizing short-term profits.

Pearson’s chi-square test ($\chi^2(8) = 16.655$; $p = 0.034$) showed a statistically significant relationship between the frequency of customer questions regarding ecological issues and the adopted strategy. Monte Carlo test results ($p = 0.032$) and the Fisher-Freeman-Halton exact test ($p = 0.012$) confirmed the reliability of this relationship despite the presence of a small percentage of cells with expected counts below 5 (20% of cells).

The interpretation of the results suggests that fuel depots observing growing customer interest in ecological aspects of coal combustion tend to adopt strategies aimed at maintaining their position or development, such as diversifying their offer or building an advantage in a market niche. Conversely, companies that do not perceive or only sporadically perceive customer interest in environmental issues more often choose strategies characteristic of the market's decline phase: harvesting or quick exit.

It turned out that customer pressure on ecological issues may be one of the factors stimulating enterprises to undertake more long-term and innovative strategic actions, including investing in the development of alternative, more environmentally friendly products. In the context of energy transition and changing social expectations, the ability to detect and respond to market signals may be a key factor differentiating companies able to survive on the market from those that will cease operations in the coming years.

The results also indicate that fuel depots receiving more frequent questions about ecological aspects more often choose long-term strategies, such as maintaining their position, diversification, or niche leadership, rather than a quick withdrawal strategy. Conversely, depots that rarely or never receive ecological questions tend to choose exit or harvesting strategies more often.

Therefore, hypothesis H6 may be rejected based on the analysis results. The actual relationship indicates that ecological pressure from customers tends to encourage more proactive development and market position maintenance strategies rather than withdrawal strategies.

3.6.10. External support and planned diversification

Research hypothesis H7 assumed that companies that received support for modernization or introducing new products (e.g., in the form of grants or tax reliefs) are more likely to plan diversification of their business activities. To verify this hypothesis, an analysis was conducted based on question 24 (declaration of diversification actions) and question 26 (receipt of financial or institutional support).

The analysis included all available observations ($N = 235$), without excluding any data (see Table 18). Among companies that did not diversify their activities, only 3 out of 75 received support. In the group of companies implementing a diversification strategy, only 5 out of 160 respondents received support. This indicates that in both groups, the proportion of entities using such support was very low.

Table 18. Planned diversification vs. received support (n = 235)

Diversification planning	Support – No	Support – Yes	Total
No, we are not planning	72	3	75
Yes, we are planning	155	5	160
Total	227	8	235

Source: Own research.

Pearson's chi-square test showed no statistically significant relationship for the analyzed association ($\chi^2(1) = 0.119$; $p = 0.730$). This result was confirmed by additional tests: continuity correction ($p = 1.000$), likelihood ratio test ($\chi^2(1) = 0.116$; $p = 0.734$), and Fisher's exact test ($p = 0.712$). All p -values considerably exceed the significance level $\alpha = 0.05$, which means there is no basis to reject the null hypothesis stating no association between the variables.

In light of the conducted analyses, hypothesis H7 was not confirmed. The results indicate that receiving support for modernization or introducing new products did not significantly influence the likelihood of companies declaring plans for business diversification.

3.6.11. Impact of market experience on its future assessment

To verify hypothesis H8, an analysis was conducted to examine the relationship between fuel suppliers' assessment of the market's future and the length of their operation in the market. The analysis used data collected through a survey (N = 235), and Pearson's chi-square test along with symmetric measures (Phi, Cramer's V, and contingency coefficient) were applied to assess the statistical dependence.

The research hypothesis H8 assumed that companies' evaluation of the market's future would differ depending on their length of operation (market tenure). To test this hypothesis, responses to question 1 (company tenure) and question 22 (assessment of future sales prospects) were analyzed. The results are presented in Table 19.

Table 19. Assessment of the market's future by firm age (N = 235)

Assessment of the market's future	Less than 5 years	5–10 years	11–20 years	More than 20 years	Total
Decrease in sales within 5 years	3	7	46	132	188
Stabilization at the current level	2	2	10	23	37
Possible sales growth	0	2	1	7	10
Total	5	11	57	162	235

Source: Own research.

Analysis included all collected observations ($N = 235$), with no cases excluded. The frequency distribution indicates that among companies with the shortest experience (less than 5 years), the dominant expectations were market stabilization or sales decline (a total of 5 responses, with no indications of sales growth). Among companies operating for 5 to 10 years, responses varied, including anticipated sales decline, stabilization, and growth (7, 2, and 2 responses, respectively). Companies with 11 to 20 years of experience and those over 20 years mostly predicted sales decline (46 and 132 cases, respectively), while positive forecasts were marginal.

Pearson's chi-square test showed that the differences in future market outlook did not reach statistical significance ($\chi^2(6) = 9.005$; $p = 0.173$). Similarly, results from the likelihood ratio test ($\chi^2(6) = 6.680$; $p = 0.351$) and the Fisher-Freeman-Halton exact test ($p = 0.171$) confirmed no grounds to reject the null hypothesis of variable independence. It is worth noting that 50% of the cells in the contingency table had expected counts less than 5, which may have reduced the statistical power of the test. The minimum expected count was 0.21. Additional Monte Carlo simulations based on 10,000 randomly generated tables also found no significant dependencies (p -values ranging from 0.162 to 0.171 for two-sided tests at the 99% confidence level).

In conclusion, based on the conducted analyses, hypothesis H8 was not confirmed. When assessing the future market, companies differing in length of operation did not exhibit statistically significant differences in their sales forecasts.

3.6.12. Differentiation of strategies based on the influence of market factors

To verify hypothesis H9, a contingency table (Table 20) was created comparing the choice of the main market influence factor (question 27) with the chosen operational strategy (question 29). The research hypothesis H9 assumed that the impact of market factors differentiates the operational strategies adopted by companies.

The analysis included all available observations ($N = 235$). Among the companies, the most frequently indicated market influence factors were legal regulations and taxes (119 cases), changes in customer preferences (74 cases), followed by competition (27 cases) and transportation and delivery costs (15 cases).

Table 20. Operation strategy vs. key market influencing factor (n = 235)

Influencing factor	Maintaining position	Harvest	Quick exit	Diversification	Niche leadership	Total
Legal regulations and taxes	47	11	32	10	19	119
Competition	13	1	10	0	3	27
Changes in customer preferences	39	2	19	6	8	74
Transportation and delivery costs	6	1	6	1	1	15
Total	105	15	67	17	31	235

Source: Own research.

Regardless of the dominant market factor, the most commonly chosen strategy was investment in cost optimization and maintaining competitiveness (the “maintaining position” strategy), selected by a total of 105 firms. However, the distribution of strategy choices did not show significant differences depending on the prevailing market influence factor.

Pearson’s chi-square test did not reveal statistically significant differences ($\chi^2(12) = 10.879$; $p = 0.539$), indicating no grounds to reject the null hypothesis of independence between the variables. Similar results were obtained with the likelihood ratio test ($\chi^2(12) = 13.058$; $p = 0.365$) and the Fisher-Freeman-Halton exact test ($p = 0.559$). Additional Monte Carlo simulations based on 10.000 generated tables confirmed these results (p values ranging from 0.535 to 0.561 for two-sided tests).

It is worth noting that 40% of the cells in the contingency table had expected frequencies less than 5 (the minimum expected count was 0.96), which may reduce the power of the statistical test. In light of these analyses, hypothesis H9 was not confirmed. The influence of the indicated market factors did not significantly differentiate the chosen business strategies in the studied sample.

3.6.13. Company size and strategy selection

The next analysis aimed to examine whether the sales volume of the companies (measured in tons) significantly differentiates the adopted operational strategies. The variables in the analysis were: sales volume (question 2) with four categories (up to 500 tons, 500–2000 tons, 2000–5000 tons, more than 5000 tons) and operational strategy (question 29) with five types of strategies. Hypothesis H10 states: The operating strategies of fuel distributors differ depending on the size of the company.

The analysis included all available observations (N = 235). The largest groups were companies with sales ranging from 500 to 2000 tons (112 enterprises) and those with sales up to 500 tons (62 enterprises). Regardless of sales volume, the most commonly chosen strategy was investing in cost optimization and maintaining competitiveness (Table 21).

Table 21. Operation strategy in relation to sales volume (n = 235)

Sales volume	Maintaining position	Harvest	Quick exit	Diversification	Niche leadership	Total
Up to 500 tons	22	5	24	5	6	62
500–2000 tons	49	8	35	7	13	112
2000–5000 tons	22	0	4	1	10	37
More than 5000 tons	12	2	4	4	2	24
Total	105	15	67	17	31	235

Source: Own research.

Results of the chi-square test (Pearson) showed a statistically significant relationship between sales volume and the chosen business strategy ($\chi^2(12) = 24.643$; $p = 0.017$). This significance was also confirmed by the likelihood ratio test ($\chi^2(12) = 26.533$; $p = 0.009$) and the Fisher-Freeman-Halton exact test ($p = 0.013$). Additional Monte Carlo analyses (with 10.000 iterations) confirmed the stability of these results (p ranging from 0.013 to 0.019). It is worth noting that 40% of the cells in the contingency table had expected counts less than 5, which may reduce the power of the chi-square test; however, the exact tests and Monte Carlo simulations support the reliability of the observed relationship.

Analysis of sales volume distributions indicates that among the smallest companies (up to 500 tons), the dominant strategies were ‘quick exit’ (24 companies) and “maintaining position” (22 companies). Medium-sized companies (500–2000 tons) showed a stronger preference for “maintaining position” (49 companies) and, to a lesser extent, “quick exit” (35 companies). In contrast, the largest companies (2000–5000 tons and more than 5000 tons) more frequently adopted niche strategies such as “niche leadership” and “diversification”. Due to the relatively small number of companies in these larger categories, these findings should be interpreted with caution.

3.6.14. Company experience and operation strategy

The study examined the relationship between company experience (question 1) and business strategies (question 29). The aim of the analysis was to determine whether business strategies differ depending on the age of the company. The study analyzed the association between company experience and the choice of business strategy. Hypothesis H11 assumed that business strategies vary according to the company’s age. To verify this hypothesis, a statistical analysis was conducted using Pearson’s chi-square test along with supplementary tests such as the Fisher-Freeman-Halton exact test and the linear association test.

Table 22. Operation strategy depending on company experience (n = 235)

Company experience	Maintaining position	Harvest	Quick exit	Diversification	Niche leadership	Total
Less than 5 years	5	0	0	0	0	5
5–10 years	4	0	4	1	2	11
11–20 years	26	4	14	5	8	57
More than 20 years	70	11	49	11	21	162
Total	105	15	67	17	31	235

Source: Own research.

The analysis revealed interesting but statistically insignificant differences in strategic choices depending on company tenure. According to the cross-tabulation (Table 22), younger companies (less than 5 years old) tend to prefer the “maintain position” strategy, while older companies (over 20 years old) more often choose strategies such as “quick exit” and “diversification”. Companies in the middle age groups (5–10 years and 11–20 years) show more varied preferences, with “maintain position” and “quick exit” being the most common strategies. Notably, no single strategy dominates within any tenure group, indicating a broad diversity in management approaches and long-term planning.

Although some trends by tenure are visible in the data, statistical tests did not confirm a significant relationship between company age and chosen strategy: Pearson’s chi-square statistic was 8.479 with $p = 0.747$, the Fisher-Freeman-Halton test gave $p = 0.873$, and the linear association test returned $p = 0.401$ – all well above the significance threshold $\alpha = 0.05$. Moreover, 60% of cells in the contingency table had expected counts below 5, potentially reducing the chi-square test’s power. Even with Monte Carlo simulations, no significant relationship emerged.

Therefore, hypothesis H11, which posited that the choice of strategy differs by company age, was rejected. This suggests that while tenure-related trends exist, other factors such as industry specifics, market conditions, and resource availability likely play a more crucial role in shaping firms’ strategic decisions.

Below is a detailed analysis of hypothesis H12 (storage method correlates with chosen market strategy), accompanied by the relevant cross-tabulation (Table 23) and interpretation of results.

Table 23. Strategy of operation and fuel storage (n = 235)

Fuel storage	Maintaining position	Harvest	Quick exit	Diversification	Niche leadership	Total
We have stock in storage	67	9	36	13	19	144
We order “just-in-time”	38	6	31	4	12	91
Total	105	15	67	17	31	235

Source: Own research.

The study analyzed the relationship between the method of fuel storage (own stock vs. ordering “just-in-time”) and the adopted market strategy (question 29). A cross-tabulation and Pearson’s chi-square test, along with measures of association strength (Phi, Cramer’s V), were used.

Descriptively, among companies holding fuel stocks, the largest percentage (46.5%) declared a “maintaining position” strategy (cost optimization), followed by 25% choosing the “quick exit” strategy, 13.2% – niche leadership, 9.0% – diversification, and 6.3% – short-term profit maximization. Among companies ordering fuel “just-in-time”, the “maintaining position” strategy also dominates (41.8%), but the share of the “quick exit” strategy is higher (34.1%), with lower participation in other strategies (niche leadership 13.2%, harvesting 6.6%, diversification 4.4%).

Pearson’s chi-square test ($\chi^2 = 3.556$; $df = 4$; $p = 0.469$) and likelihood ratio test ($p = 0.456$) indicate no statistically significant association between the storage method and market strategy. Phi and Cramer’s V values (~ 0.123) confirm that the relationship, if any, is very weak. Thus, hypothesis H12 was not confirmed.

Despite the lack of statistically significant correlation, differences in strategy distributions suggest areas for managerial support. Firms with their own stock show a greater tendency for long-term optimization, which may be supported by inventory planning and supply chain management tools. In contrast, companies ordering “just-in-time” more often consider a quick exit from the market – flexible financing options and just-in-time models reducing supply disruption risk may be beneficial for them.

Regarding the relationship between order fulfillment time and the choice of market strategy, coal distributors underwent statistical analysis to verify hypothesis H13, which assumed that order fulfillment time influences the market strategy applied by these companies. Pearson’s chi-square test, Fisher-Freeman-Halton exact test, and linear association test were used. Data from a sample of 235 observations were analyzed.

The analyses indicate that although order fulfillment time substantially influences strategy preferences, none of these relationships proved statistically significant. Below is a cross-tabulation illustrating the distribution of market strategies depending on order fulfillment time.

Table 24. Relationship between market strategy and order fulfillment time (n = 235)

Order fulfillment time	Maintaining position	Harvest	Quick exit	Diversification	Niche leadership	Total
Within 24 hours	85	12	56	15	27	195
2–3 days	20	3	10	2	4	39
More than 3 days	0	0	1	0	0	1
Total	105	15	67	17	31	235

Source: Own research.

The cross-tabulation shows that the largest number of companies in the coal depot sector (195 firms) fulfill orders within 24 hours, with the dominant strategy in this group being “maintaining position” (85 firms), followed by “quick exit” (56 firms). Companies that fulfill orders within 2–3 days (39 firms) exhibit a more diverse choice of strategies, with “maintaining position” (20 firms) remaining the most common. Only one company (and none in the group fulfilling orders in more than 3 days) chose the “quick exit” strategy.

Pearson’s chi-square test for the analyzed contingency table yielded a test statistic of 3.790 with 8 degrees of freedom, resulting in a significance level (p -value) of 0.876. Since the p -value exceeds 0.05, there is no basis to reject the null hypothesis, indicating that order fulfillment time does not have a statistically significant impact on the choice of market strategy. The likelihood ratio test produced a p -value of 0.873, confirming the lack of statistical significance in the relationship between order fulfillment time and strategy choice. Fisher-Freeman-Halton’s exact test also showed no statistically significant association ($p = 0.851$). The value of the linear-by-linear association test ($p = 0.383$ two-tailed and $p = 0.215$ one-tailed) further confirms the absence of a linear relationship between the variables, reinforcing the non-significance.

Additionally, it is worth noting that 46.7% of the cells in the contingency table had an expected frequency of less than 5, which may reduce the power of the chi-square test. Such distributions may make it more difficult to detect significant relationships. Nevertheless, applying Monte Carlo simulations and other approximation tests did not alter the conclusion regarding the lack of statistical significance.

Based on the statistical test results, hypothesis H13, which posited that order fulfillment time influences the choice of market strategy, was rejected. Although some differences in strategies were observed depending on order fulfillment time (e.g., rapid order fulfillment is often associated with the “maintaining position” strategy), these differences are not statistically significant.

3.6.15. Discussion

The results of the presented research provide significant insights into the functioning of enterprises in a declining market, illustrated by the example of the hard coal sector in Poland. The analysis of fuel depots’ strategies confirms the thesis of Harrigan [1980] and Porter [1996] that defensive actions dominate in the decline phase, such as cost optimization (44.7% of respondents) or a “harvest” strategy (6.4%). At the same time, despite the anticipated drop in demand, only a few companies declare radical changes, such as diversification (7.2%) or niche leadership (13.2%). This cautious approach reflects patterns typical for

declining industries, where uncertainty regarding the permanence of demand decline encourages maintaining the status quo [Sabol, Šander, and Fuckan, 2013].

The confirmed hypothesis H4, indicating a relationship between diversification and offering alternative fuels, corresponds with the concept of Thomas and Douglas [2021], who emphasized the role of resource reconfiguration in adapting to disruption. However, the low share of companies implementing such solutions (only 37.9% declare diversification) suggests structural barriers, such as lack of support (96.6% of companies did not receive assistance), which hinders the implementation of technological innovations recommended by Ashurbayev and Sharipova [2024]. The lack of confirmation for hypothesis H7 (no relationship between support and diversification) points to the ineffectiveness or inaccessibility of aid programs, calling for institutional intervention along the lines of Tavassoli's [2015] recommendations to stimulate international trade as a catalyst for innovation.

The rejection of hypothesis H6 (ecological pressure from customers does not lead to withdrawal but to proactive strategies) partially challenges Subramanian's [2017] assumptions about radical transformation paths while confirming Burpitt and Fowler's [2007] thesis that companies responding to market signals are more likely to invest in adaptation. In the Polish context, where 58.3% of fuel depots observe growing interest in ecological solutions but only 3.4% receive support, the role of public policies in mitigating tensions between ESG requirements and economic realities becomes crucial [Szlugaj and Galos, 2021].

The findings emphasize the need for systemic support for declining companies, integrating strategic recommendations from the literature e.g., Klepper's ILC models [1997] with practical financial and regulatory instruments. Only a holistic approach that considers both endogenous sector limitations (e.g., low innovativeness) and exogenous pressures (EU climate policy) will enable a just transition consistent with the objectives of the European Green Deal.

In summary, statistical analysis confirmed the significant relationship between planned diversification and the introduction of alternative fuels (H4), while it did not demonstrate a significant role of financial support in stimulating offer expansion (H7) nor the impact of ecological pressure on the choice of withdrawal strategy (H6). Additionally, it was confirmed that sales volume significantly differentiates action strategies, whereas other factors (such as order fulfillment time or storage methods) had no statistically significant effect on the adopted behavioral models (H10–H13). These results suggest that coal distributors, although aware of the need for product innovation, largely remain focused on defensive actions, and effective transformation requires both strengthening institutional instruments and targeted market education.

Conclusion

The following part summarizes a multifaceted analysis of the declining hard coal market, integrating the achievement of research objectives, verification of formulated hypotheses, and practical as well as methodological conclusions. It highlights the extent to which assumptions regarding the relationships between pricing strategies, product assortment diversification, and customer behaviors were confirmed, while also identifying areas requiring revision, such as the impact of institutional support on the transformation of companies. The reflection includes practical recommendations for enterprises and policymakers, taking into account challenges related to the implementation of alternative fuels and pro-ecological communication. At the same time, the limitations of the study are emphasized, and directions for future research are outlined. This part serves both to close the scientific discourse and to inspire further exploration in the dynamic context of the energy market. The conducted quantitative study enabled the achievement of all four main research objectives.

Table 25 presents a synthetic summary of the results from testing 13 research hypotheses formulated within the analysis of fuel depots' strategies in the declining Polish hard coal market. The study aimed to identify factors influencing managerial decisions, including the choice of distribution channels, pricing policy, product offer diversification, and responses to changing customer preferences. Statistical methods used to verify the hypotheses included Pearson's chi-square test, the Fisher-Freeman-Halton exact test, and ordinal regression (PLUM). The results indicate a varied nature of the relationships – some hypotheses were confirmed (e.g., the influence of pricing methods on discount policies), while others were rejected (e.g., the lack of association between financial support and diversification plans). The table serves as a starting point for reflection on the adaptive challenges faced by enterprises amid energy transition and increasing environmental requirements.

Table 25. Summary of hypotheses verification H1–H13 in the study of marketing strategies and practices of fuel depots

Research objective	Hypothesis number	Hypothesis statement	Method of verification	Statistics (p -value)	Verification
1	2	3	4	5	6
To examine the influence of customer profile (individual vs. wholesale), utilized sales channels, types of promotional activities, and pricing strategies on the assessment of marketing effectiveness and discount policy of fuel supply depots	H1	The type of customer (individual vs. whole-sale) is associated with the choice of sales channels	Pearson's χ^2 test (+ Fisher-Freeman-Halton for 2×2)	Internet: $\chi^2 = 11.864$ ($p < 0.001$) Intermediaries: $\chi^2 = 47.333$ ($p < 0.001$)	Confirmed for Internet channels and intermediaries
	H2	The type of promotional activities used influences the assessment of marketing effectiveness	Ordinal regression (PLUM)	$\beta = -1.025$ ($p = 0.019$)	Confirmed for loyalty programs
	H3	The pricing method (based on market prices versus supplier prices) is correlated with the use of discounts for customers	Pearson's χ^2 test (+ Fisher-Freeman-Halton)	$\chi^2 = 9.828$ ($p = 0.043$)	Confirmed
To analyze the relationship between assortment diversification plans, observed changes in customer preferences, and the introduction of alternative fuels (including eco-friendly products) into the offer	H4	Depots planning assortment diversification more often introduce alternative fuels	Pearson's χ^2 test	$\chi^2 = 37.910$ ($p < 0.001$)	Confirmed
	H5	A shift in customer preferences towards more eco-friendly solutions is correlated with the implementation of ecological products (e.g., Blue Coal)	Pearson's χ^2 test + Fisher's exact test	$\chi^2 = 0.029$ ($p = 0.865$) Fisher $p = 1.000$	Rejected
	H6	More frequent customer inquiries about the ecological aspects of coal combustion are associated with declarations of exiting the fuel market	Pearson's χ^2 test + Fisher-Freeman-Halton	$p = 0.697$ (χ^2 not significant)	Rejected
To determine the impact of received support (e.g., subsidies, tax relief), assessment of the future fuel market, and perception of key market factors on the strategies adopted by fuel depots	H7	Receiving financial or organizational support is correlated with plans to diversify business activities	Pearson's χ^2 test + Fisher's exact test	$\chi^2 = 0.119$ ($p = 0.730$)	Rejected
	H8	The assessment of the future fuel market differs depending on the company's length of operation	Pearson's χ^2 test + Fisher-Freeman-Halton	$\chi^2 = 9.005$ ($p = 0.173$)	Rejected
	H9	The perception of factors such as legal regulations, competition, and transportation costs differentiates the adopted marketing strategies	Pearson's χ^2 test + Fisher-Freeman-Halton	$\chi^2 = 10.879$ ($p = 0.539$)	Rejected

Table 25 cont.

1	2	3	4	5	6
To analyze the impact of company characteristics (sales volume, company age), fuel storage methods, and order fulfillment time on the adopted business strategies	H10	The operation strategies of fuel depots vary according to the average annual sales volume	Pearson's χ^2 test + Fisher-Freeman-Halton	$\chi^2 = 24.643$ ($p = 0.017$)	Confirmed
	H11	The operation strategies of fuel depots vary depending on the company's age (tenure)	Pearson's χ^2 test + Fisher-Freeman-Halton	$\chi^2 = 8.479$ ($p = 0.747$)	Rejected
	H12	The method of fuel storage (own warehouse vs. ordering "just-in-time") is correlated with the adopted market strategy	Pearson's χ^2 test	$\chi^2 = 3.556$ ($p = 0.469$)	Rejected
	H13	Order fulfillment time (up to 24 hours, 2–3 days, more than 3 days) influences the choice of market strategy	Pearson's χ^2 test + Fisher-Freeman-Halton	$\chi^2 = 3.790$ ($p = 0.876$)	Rejected

Note: For 2×2 tables (H1, H5–H6), exact Fisher tests were also reported; where cell counts were low, both the chi-square test with continuity correction and the exact test p -values were considered in the interpretation.

To comprehensively address the research objectives, the following section presents answers to each of the formulated research questions, highlighting the main empirical findings and their practical implications.

Research Question 1.1: Is the type of customer (individual vs. wholesale) associated with the choice of sales channels?

Notably, depots that served both wholesale and retail customers tended to rely more frequently on direct, dedicated B2B channels (e.g., direct sales teams, bespoke contractual arrangements), whereas depots serving only retail customers showed greater use of intermediary and electronic channels. This distinction is therefore useful for tailoring distribution and communication strategies, although the strength of the association varies slightly depending on whether wholesalers are included in the sample.

Research Question 1.2: How does the type of promotional activities used affect the assessment of marketing effectiveness?

Promotional design matters: loyalty programmes and targeted relationship-building measures consistently raise perceived marketing effectiveness, while one-off price promotions generate only short-term attention. From a managerial perspective, investments in sustained, relationship-focused promotion produce more durable assessments of marketing success than episodic discounting.

Research Question 1.3: Is the pricing method correlated with the use of discounts?

Yes – pricing approach is linked with discounting behaviour. Firms with more flexible, market-oriented pricing structures are likelier to deploy discounts as a competitive tool, whereas companies operating under rigid pricing schemes tend to use discounts less systematically.

Research Question 2.1: Do depots planning product diversification introduce alternative fuels more often?

Yes – depots that declare plans for diversification are noticeably more likely to offer alternative fuels in practice. This indicates that diversification intentions frequently translate into concrete product changes rather than remaining purely aspirational.

Research Question 2.2: Is the observed change in customer preferences correlated with the implementation of ecological products?

Not directly – although shifts in customer preferences toward ecological attributes are detectable, they do not automatically lead to widespread adoption of ecological products. Practical barriers such as cost, technology availability and limited institutional support often slow conversion of demand signals into new offerings.

Research Question 2.3: Are more frequent customer inquiries about ecological aspects related to declarations of exiting the coal market?

No clear relationship was found – more frequent customer questions on ecology do not reliably predict declarations to exit the coal market. Companies generally respond cautiously and tend to favour gradual adjustments over abrupt market exit decisions.

Research Question 3.1: Does receiving support (financial, organizational) correlate with plans for business diversification?

In this sample, external support did not emerge as a decisive driver of diversification plans. Internal capabilities, readiness to change and resource endowment appear more influential than sporadic forms of outside assistance.

Research Question 3.2: Does the assessment of the future of the coal market differ depending on the company's length of operation?

No systematic difference by firm age was observed. Both newer and longer-established companies express a range of expectations about the market's future, suggesting that outlook depends more on firm-specific circumstances than on simple longevity.

Research Question 3.3: Does the perception of market factors influence the marketing strategies adopted?

Perceptions shape strategic narratives but do not always trigger immediate changes in practice. Market perceptions influence the way managers frame strat-

egy, yet substantive adjustments are typically implemented only when perception aligns with available resources and operational feasibility.

Research Question 4.1: Do the operating strategies of fuel depots differ depending on company size?

Yes – company size is a clear differentiator. Larger depots demonstrate greater flexibility and a higher propensity to pursue expansionary strategies, while smaller firms more often adopt conservative or niche-focused approaches.

Research Question 4.2: Do the operating strategies of fuel depots differ depending on company age (length of operation)?

No – company age alone does not appear to be a primary determinant of strategy. Strategic choices are driven more by current capabilities and market position than by how long the firm has existed.

Research Question 4.3: Does the method of fuel storage correlate with the adopted market strategy?

No substantial direct correlation was observed. Storage methods function primarily as operational enablers rather than as the main drivers of strategic direction.

Research Question 4.4: Does order fulfillment time influence the choice of market strategy?

Not in a decisive way – while fulfillment time affects operational competitiveness, it rarely dictates long-term strategic orientation unless combined with other structural factors (for example scale or resource constraints).

The study focusing on marketing in the declining coal market, involving fuel depots as key respondents, has significant methodological and contextual limitations. These stem, among others, from reliance on distributors' self-reports, which may introduce subjective biases (e.g., response bias), as well as geographic constraints (concentration on the Polish market). Additionally, the lack of access to objective operational data (e.g., sales volumes) hinders full verification of the effectiveness of the recommended strategies. This necessitates cautious interpretation of the results, especially regarding their applicability to other markets or industries with different dynamics. The following summary systematizes these challenges, emphasizing the need to consider them in future research.

Studies on marketing in the declining hard coal market, involving fuel suppliers as respondents, highlight the necessity to implement comprehensive actions tailored to the specifics of shrinking demand. Table 26 presents practical recommendations for individual elements of the marketing mix (product, price, distribution, promotion) and the market, incorporating both optimization of existing strategies and support for the adoption of innovative solutions. These recommendations are based on data from distributors, underlining their practical applicability within the fuel supply sector.

Table 26. Practical recommendations for individual elements of the marketing mix and the declining market

Element	Practical implications	References
Product	Education and promotion: Intensification of campaigns informing customers about the economic and environmental benefits of Blue Coal	Benito-Osorio, Ángel Guerras-Martin and Ángel Zuñiga-Vicente [2012]
	Institutional support: Introduction of subsidies, preferential loans, and pilot programs to reduce market entry barriers	–
	Brand portfolio optimization: Rationalization of the product range by phasing out unprofitable assortments and reallocating resources toward high-potential fuels	Kumar [2003]
Price	Segmented discounts: Implementation of nonlinear discount structures for eco-friendly fuels	Hinterhuber and Liozu [2018]
	Loyalty programs: Development of reward systems for customers purchasing green fuels	Bolton, Kannan, and Bramlett [2000]; Johnson and Scott [2019]
	Supplier negotiations: Increasing profit margins by strengthening bargaining power with suppliers	Wiersema and Bowen [2008]
Distribution	Strengthening traditional channels: Maintaining in-person and telephone sales channels for end customers	Reinartz and Kumar [2002]
	Logistics investment: Free delivery and fast order fulfillment as sources of competitive advantage	Barcik and Jakubiec [2013]
	E-commerce development: Strategic alliances (e.g., joint ventures) to reduce online channel costs	Guiltinan [1999]
Promotion	Offer rebranding: Campaigns highlighting the environmental benefits of cleaner fuel options	Miller, Merrilees and Yakimova [2014]
	CRM integration with digital channels: Improved targeting and feedback via social media	Desta and Amantie [2024]
	Effectiveness monitoring: Use of analytics tools to track conversions and customer engagement	Keswani and Khedlekar [2024]
Market	Product diversification: Development of alternative fuels as a key strategic direction	–
	Operational cost optimization: Defending market position in the context of declining demand	–
	Investments in logistics and competencies: Building resilience to external shocks	–

Source: Own research.

Despite valuable insights, the study has limitations related to its local context and the subjective nature of respondents' declarations. Table 27 proposes directions for further research that will deepen understanding of the mechanisms governing marketing in declining markets. These include, among others, the need for comparative analyses, verification of strategy effectiveness over a longer time horizon, and examination of the impact of environmental regulations. Such efforts may serve as a foundation for developing more universal management models in the solid fuels sector.

Table 27. Directions for future research

Element	Research direction	Description	References
Product	Longitudinal studies	Monitoring changes in customer preferences and distributor offerings over a longer period	–
	Segment analysis	Identifying adaptation factors in different regions and business segments	–
Price	A/B testing of discount structures	Verifying the effectiveness of nonlinear pricing models	Hinterhuber and Liozu [2018]
	Impact of environmental regulations	Analyzing their impact on pricing strategies	–
Distribution	Case studies on cooperation	Assessing the impact of strategic alliances on channel efficiency	Todeva and Knoke [2005]
	International comparisons	Studying differences in distribution models in other markets	–
Promotion	Evaluation of hybrid promotion models	Combining traditional and digital media	–
	Analysis of ecological communication	The impact of sustainability messaging on campaign effectiveness	–
Market	Qualitative research with managers	Deepening knowledge of management strategies in declining market conditions	–
	Financial indicator analysis	Verifying the correlation between diversification and profitability	–

Source: Own research.

The quantitative research conducted, involving the analysis of fuel composition strategies in the declining hard coal market, enabled the full achievement of the research objectives and the verification of the proposed hypotheses. Key relationships were confirmed, such as the impact of customer type on the choice of distribution channels, the role of loyalty programs in assessing marketing effectiveness, and the importance of product diversification in the context of introducing alternative fuels. At the same time, it was shown that some assumptions require revision – the lack of a relationship between institutional support and company transformation, as well as the limited influence of ecological pressure on decisions to withdraw from the market, underscore the complexity of enterprise adaptation to dynamic regulatory and social changes. The research findings provide a basis for practical recommendations, including customer segmentation, flexible pricing models, and investments in logistics, which may enhance companies' competitiveness under decarbonization conditions. Despite limitations such as the regional nature of the sample and the subjectivity of declarative data, this study makes a significant contribution to the scientific discourse by combining statistical analysis with reflection on the challenges of energy transformation. Future research should focus on long-term monitoring of regulatory impacts, international comparisons, and the integration of qualitative and quantitative methods to deepen the understanding of management mechanisms in declining markets. This monograph not only summarizes the current state of knowledge but also outlines directions for future exploration, serving as inspiration for scholars, practitioners, and policymakers striving for sustainable development in the energy sector.

Appendix 1: Research methodology

The attachment presents the assumptions and methodology of empirical research aimed at analyzing marketing strategies used by companies selling coal in a declining market environment. The study was explanatory in nature and conducted using a quantitative approach. In the first stage, a literature review in the fields of marketing and management was carried out, which enabled the identification of knowledge gaps as well as the formulation of research problems and hypotheses. Based on this, a questionnaire was developed to collect data that allowed for the assessment of current marketing activities of coal enterprises and their adaptations to regulatory conditions, pro-environmental pressure, and declining demand characteristic of a declining market.

The literature review was conducted following methodological principles typical for a systematic approach [Hensel, 2020]. The process included the following stages:

- defining the review topic,
- establishing search criteria and inclusion rules for publications,
- searching databases to identify relevant sources,
- preliminary selection of publications based on titles and abstracts,
- detailed analysis and qualification of full texts,
- preparing a report summarizing the results of the literature review.

The results of the systematic literature review indicate a lack of comprehensive analyses on the adaptation of marketing mix strategies by coal companies operating in a declining market. This gap forms the basis for the following research problem: *How do fuel depots adapt their marketing mix activities to the conditions of the declining hard coal market, as well as to changing regulatory, market, and customer preference conditions?*

In response to the identified research problem, the main research objective and primary research question were formulated, which frame the further analysis. **The main objective** is to identify and analyze marketing strategies used by fuel depots in the declining hard coal market, with particular emphasis on marketing mix activities and their internal and external determinants. **The primary research question** is: *What marketing strategies are employed by fuel depots in the declining market, and how are these strategies shaped by customer profiles, market factors, environmental considerations, and plans for business diversification?*

The basis of the study was a questionnaire survey (attachment). This research is a continuation of earlier analyses conducted as part of the author's doctoral dissertation, which examined mining companies. These earlier studies indicated the need for changes in distribution channels, with particular emphasis on

the role of entities involved in the trade of coal products (Intermediary Coal Entities). The role of these intermediaries was significantly disrupted due to the outbreak of the full-scale war in Ukraine and the introduction of an embargo on coal imports from Russia. This resulted in a reorganization of distribution channels by mining companies and often deprived intermediaries of their status as authorized sellers. Conducting research among intermediaries during a period of relative market stabilization allows for a comparison of the results of both research phases and complements the analysis of marketing mix activities in the declining market.

In this quantitative study, four main objectives are formulated, which guide both the selection of the research instrument and the statistical analysis using SPSS.

Objective 1 is to examine the relationships between customer profile, sales channels, promotional activities, and pricing methods with the assessment of marketing effectiveness and discount practices.

- **Research Question 1.1:** Is the type of customer (individual vs. wholesale) associated with the choice of sales channels?
- **Research Question 1.2:** How does the type of promotional activities used affect the assessment of marketing effectiveness?
- **Research Question 1.3:** Is the pricing method correlated with the use of discounts?

Objective 2 is to assess how plans for product diversification and changes in customer preferences are related to the introduction of alternative fuels, ecological products, and declarations regarding withdrawal from the coal market.

- **Research Question 2.1:** Do depots planning product diversification introduce alternative fuels more often?
- **Research Question 2.2:** Is the observed change in customer preferences correlated with the implementation of ecological products?
- **Research Question 2.3:** Are more frequent customer inquiries about ecological aspects related to declarations of exiting the coal market?

Objective 3 involves analyzing the impact of external support, the assessment of the future of the coal market, and the perception of market factors on business diversification plans and adopted marketing strategies.

- **Research Question 3.1:** Does receiving support (financial, organizational) correlate with plans for business diversification?
- **Research Question 3.2:** Does the assessment of the future of the coal market differ depending on the company's length of operation?
- **Research Question 3.3:** Does the perception of market factors influence the marketing strategies adopted?

Objective 4 aims to determine how company characteristics (size, age), fuel storage methods, and order fulfillment times affect market strategies.

- **Research Question 4.1:** Do the operating strategies of fuel depots differ depending on company size?

- **Research Question 4.2:** Do the operating strategies of fuel depots differ depending on company age (length of operation)?
- **Research Question 4.3:** Does the method of fuel storage correlate with the adopted market strategy?
- **Research Question 4.4:** Does order fulfillment time influence the choice of market strategy?

Hypotheses for Objective 1

- **H1:** Customer type (individual vs. wholesale) is associated with the choice of sales channels.
- **H2:** The type of promotional activities used affects the assessment of marketing effectiveness.
- **H3:** The method of pricing correlates with the use of discounts.

Hypotheses for Objective 2

- **H4:** Depots planning product diversification introduce alternative fuels more often.
- **H5:** Changes in customer preferences are correlated with the implementation of ecological products.
- **H6:** More frequent customer inquiries about ecological aspects are related to declarations of exiting the coal market.

Hypotheses for Objective 3

- **H7:** Receiving support (financial, organizational) correlates with plans for business diversification.
- **H8:** The assessment of the future of the coal market differs depending on the length of company operation.
- **H9:** The perception of market factors differentiates the marketing strategies adopted.

Hypotheses for Objective 4

- **H10:** Operating strategies of fuel depots differ depending on company size.
- **H11:** Operating strategies of fuel depots differ depending on company age (length of operation).
- **H12:** The method of fuel storage correlates with the adopted market strategy.
- **H13:** Order fulfillment time influences the choice of market strategy.

The collected data will be analyzed using the SPSS software. Several statistical methods were employed in the study to verify the formulated research hypotheses. The primary analytical technique was ordinal regression (PLUM), which was used to analyze the impact of promotional activities on the assessment of marketing effectiveness. By applying the logit link function, models were obtained that allow for the prediction of an ordinal dependent variable. Additionally, to examine relationships between categorical variables, the Pearson chi-square test of independence was used, provided that all expected cell frequencies in the contingency tables were at least 5. In cases where this as-

sumption was not met – or where many cells had small expected counts – the Fisher-Freeman-Halton exact test was applied; when exact testing became impractical for larger $R \times C$ tables, Monte Carlo-based approximations were used to obtain reliable p -values despite violations of the χ^2 asymptotic assumptions. A significance level of $\alpha = 0.05$ was adopted. Results are reported with the test statistic, degrees of freedom where applicable, the p -value and the method used to compute it (asymptotic/ exact/ Monte Carlo); where relevant, measures of effect size (e.g. Cramér's V) are also provided. Below, the scope of the quantitative study is defined across four dimensions: subject matter, participants, timeframe, and spatial coverage.

- **Subject scope** – the analysis focused on elements of the marketing mix (product, price, distribution, promotion) in companies trading coal products.
- **Participant scope** – the study involved employees of fuel depots. A purposive sampling method was applied to select companies that best met the established criteria. Two sources were used to gather data: a list of authorized dealers and qualified coal suppliers extracting hard coal in Poland, and the portal www.cieplo.gov.pl, where fuel depots are required to publish product availability and prices. As a result, 3,238 email addresses of potential respondents, representatives of fuel depots, were collected. The online questionnaire was sent to this group, and respondents completed it independently. Each organization was asked to delegate only one person to participate in the survey. For the final analysis, all 235 responses received within the designated period were included. The respondent characteristics are presented in Table 28.

Table 28. Characteristics of the research sample – fuel depots ($n = 235$)

Variable	Category	Frequency	Percentage (%)	Cumulative percentage (%)
Company experience	Less than 5 years	5	2.1	2.1
	5–10 years	11	4.7	6.8
	11–20 years	57	24.3	31.1
	More than 20 years	162	68.9	100
Sales volume	Up to 500 tons	62	26.4	26.4
	500–2000 tons	112	47.7	74
	2000–5000 tons	37	15.7	89.8
	More than 5000 tons	24	10.2	100
Source of coal	Domestic mines	107	45.5	45.5
	Import (e.g., Kazakhstan, Colombia)	40	17	62.6
	Both sources equally	88	37.4	100
Customer type	Only end coal consumers	170	72.3	72.3
	Intermediary coal entities	2	0.9	73.2
	Intermediaries + end consumers	63	26.8	100

Source: Own research.

The surveyed fuel depots are predominantly well-established companies in the market, 68.9% have been operating for over 20 years, and another 24.3% for 11 to 20 years. Most of them (47.7%) achieve an average annual sales volume of 500–2000 tons, while 26.4% are smaller entities with turnover up to 500 tons. The main source of supply for 45.5% of the companies is domestic mines, although 37.4% use both domestic and imported coal sources. In terms of customer structure, companies serving exclusively end consumers dominate (72.3%), i.e., households and businesses using coal for their own needs, which indicates a strong focus of the surveyed depots on the retail market.

- **Timeframe** – the survey was conducted between March and April 2025.
- **Geographical scope** – the study covered companies located in various regions of Poland.

In summary, the attachment presents a comprehensive quantitative research procedure, from formulating research questions, through operationalizing goals and hypotheses, to defining the scope of surveyed enterprises and data collection methods, ensuring the reliability and coherence of the entire study.

Appendix 2: Survey

Marketing-Mix in a declining market – coal depot (in the original in Polish)

Dear Sir/Madam,

We are conducting a survey on behalf of the University of Economics in Katowice. The study concerns marketing strategies used by fuel depots in the context of the declining coal market. The survey is anonymous, and all collected data will be used solely for scientific purposes. The results will serve as the basis for an academic monograph under the same title. The questionnaire consists of 29 questions and will take no more than 5 minutes to complete.

1. General information – coal depot profile

1. How long has your company been operating in the market?
 - a) Less than 5 years
 - b) 5–10 years
 - c) 11–20 years
 - d) More than 20 years
2. What is the size of your coal depot (measured by average annual sales in tons)?
 - a) Up to 500 tons
 - b) 500–2000 tons
 - c) 2000–5000 tons
 - d) More than 5000 tons
3. What are your main sources of coal supply?
 - a) Domestic mines
 - b) Imports (e.g., Russia, Kazakhstan, Colombia)
 - c) Both sources equally
4. Who are your coal buyers?
 - a) Only End Coal Consumers (e.g., households, businesses that use coal directly)
 - b) Intermediary Coal Entities
 - c) Both Intermediary Coal Entities and End Coal Consumers

2. Product

5. What types of coal do you offer? (*multiple answers possible*)
 - a) Nut coal
 - b) Lump coal

- c) Pea coal
- d) Coal dust
- e) Blue Coal
- 6. Have you introduced alternative fuels to coal in your offer (e.g., pellets, firewood, briquettes)?
 - a) Yes
 - b) No, but we plan to
 - c) No and we do not plan to
- 7. Have you noticed a shift in customer preferences toward more environmentally friendly types of coal (e.g., standard pea coal, blue coal)?
 - a) Yes, increasingly often
 - b) Occasionally
 - c) No

3. Price

- 8. How do you determine coal prices?
 - a) Based on market prices (competition, exchange)
 - b) Based on supplier prices
 - c) Individually, depending on the customer
- 9. Do you offer discounts to customers?
 - a) Yes, for regular customers
 - b) Yes, for large orders
 - c) No, we do not offer discounts
- 10. Are customers sensitive to changes in coal prices?
 - a) Yes, every price increase affects sales
 - b) Slightly, as long as the price increase is small
 - c) No, customers prioritize quality
- 11. What payment methods are available to customers?
 - a) Cash payment
 - b) Bank transfer before delivery
 - c) Bank transfer after delivery (trade credit)
 - d) Installments

4. Distribution

- 12. Which sales channels do you use? (multiple answers possible)
 - a) In-store sales
 - b) Online sales
 - c) Phone orders
 - d) Cooperation with intermediaries
- 13. Do you offer coal delivery to customers?
 - a) Yes, free of charge

- b) Yes, for an additional fee
- c) No
- 14. What is the average order fulfillment time?
 - a) Within 24 hours
 - b) 2–3 days
 - c) More than 3 days
- 15. Do you store coal in stock or order it as needed?
 - a) We maintain inventory
 - b) We order as needed
- 16. Do you believe that changing your distribution system (e.g., increasing online sales) would improve your competitiveness?
 - a) Yes
 - b) No

5. Promotion and communication

- 17. What promotional activities do you use most often? (*multiple answers possible*)
 - a) Advertising in local media
 - b) Company website
 - c) Social media
 - d) Loyalty programs
 - e) We do not engage in promotional activities
- 18. Do you have a social media profile (e.g., Facebook, Instagram)?
 - a) Yes
 - b) No, but we plan to
 - c) No, and we do not plan to
- 19. How often do you update your offer on your website or social media?
 - a) At least once a week
 - b) Once a month
 - c) Less than once a month
 - d) We do not update our offer
- 20. Do customers ask for information about the environmental aspects of coal combustion?
 - a) Yes, increasingly often
 - b) Occasionally
 - c) No
- 21. How would you rate the effectiveness of your marketing activities?
 - Scale from 1 (very ineffective) to 5 (very effective)

6. Market perspectives

22. How do you assess the future of the hard coal market in Poland?
 - a) Decline in sales over the next 5 years
 - b) Stabilization at the current level
 - c) Possible increase in sales
23. Have you noticed a shift of customers toward alternative heat sources (e.g., heat pumps, gas, photovoltaics)?
 - a) Yes, to a large extent
 - b) Yes, but to a limited extent
 - c) No, most customers remain loyal to coal
24. Do you plan to diversify your business in the coming years (e.g., adding new products, expanding services)?
 - a) Yes
 - b) No
25. Have you observed changes in customer preferences (e.g., increased interest in standard pea coal or alternative fuels)?
 - a) Yes, more and more customers choose eco-friendly options
 - b) No, traditional products still dominate
26. Has your company received support (e.g., grants, tax relief) for business modernization or new product introduction?
 - a) Yes
 - b) No
27. Which factors may most influence the future of your depot?
 - a) Legal regulations and taxes
 - b) Competition
 - c) Changes in customer preferences
 - d) Transport and delivery costs
28. What actions have you taken in response to changes in the fuel market? (*multiple answers possible*)
 - a) Cost reduction (e.g., staff cuts, reducing inventory)
 - b) Product assortment change (e.g., introducing alternative energy sources – pellets, photovoltaics, heat pumps)
 - c) Business diversification (e.g., selling additional products or services unrelated to fuel)
 - d) Focusing on loyal customers and adapting the offer to their needs
 - e) Gradual withdrawal from the fuel market
29. Which of the following statements best describes your company's approach in the coming years?
 - a) We will invest in cost optimization and maintaining competitiveness (position maintenance strategy)

- b) Our goal is to maximize short-term profits before possible business closure (harvesting strategy)
- c) We plan a gradual exit from the fuel market (quick exit strategy)
- d) We focus on growth and diversification of the offer, e.g., selling renewable energy sources (diversification strategy)
- e) We want to dominate a niche by focusing on loyal customers and offering additional services (niche leadership strategy)

Thank you for completing the survey! Your answers will help us better understand the specifics of marketing in a declining market.

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List of tables

1. Determinants of the sector life cycle phase	14
2. Structural determinants of competition in a declining sector.....	17
3. Endogenous and exogenous causes of the Polish hard coal sector entering the decline phase.....	25
4. Changes in marketing definitions presented by the American Marketing Association (AMA)	28
5. Concepts inspired by the 4P marketing mix formula.....	31
6. Development of new marketing mix instrument concepts.....	33
7. Marketing mix strategies in declining markets	42
8. Selected cooperation models and motives for their use in the declining market.....	50
9. Relationship between offering Blue Coal and changes in customer preferences (N = 235)	59
10. Relationship between pricing method and discount policy (N = 235).....	65
11. Relationship between customer type and use of stationary sales by fuel depots.....	71
12. Relationship between Internet-based sales and customer type in fuel depots	72
13. Relationship between telephone sales methods and customer types in coal suppliers.....	72
14. Relationship between sales through intermediaries and client type in fuel depots	73
15. Estimates of ordinal regression parameters	89
16. Alternative fuels vs. planned diversification (n = 235).....	100
17. Ecology and operation strategies (n = 235)	101
18. Planned diversification vs. received support (n = 235).....	103
19. Assessment of the market's future by firm age (N = 235).....	103
20. Operation strategy vs. key market influencing factor (n = 235)	105
21. Operation strategy in relation to sales volume (n = 235).....	106
22. Operation strategy depending on company experience (n = 235).....	107
23. Strategy of operation and fuel storage (n = 235)	107
24. Relationship between market strategy and order fulfillment time (n = 235)	108
25. Summary of hypotheses verification H1–H13 in the study of marketing strategies and practices of fuel depots	112
26. Practical recommendations for individual elements of the marketing mix and the declining market.....	116

27. Directions for future research	117
28. Characteristics of the research sample – fuel depots (n = 235).....	122

List of figures

1. Industry life cycle	12
2. Availability of types of coal offered by fuel depots (N = 235)	55
3. Introduction of alternative fuels into the offerings of coal suppliers (N = 235) ..	56
4. Observed shift in customer preferences toward more environmentally friendly types of coal (N = 235)	58
5. Methods of coal pricing in coal depot offers (N = 235).....	62
6. Use of discounts in coal pricing strategies (N = 235)	63
7. Customer sensitivity to changes in coal prices (N = 235).....	66
8. Available payment methods – “Yes” responses (N = 235).....	67
9. Sales channels used by fuel depots in a declining market (N = 235).....	70
10. Offering coal transportation by fuel depots on the declining market (N = 235) ..	74
11. Average order fulfillment time at fuel depots (N = 235)	76
12. Model of coal supply to fuel depots (N = 235).....	77
13. Fuel depots’ opinions on changing the distribution system (N = 235)	78
14. Promotional activities used by fuel depots (N = 235).....	82
15. Presence of social media profiles among fuel depots (N = 235).....	83
16. Frequency of updating offers on social media and websites among fuel depots (N = 235)	85
17. Frequency of customer inquiries about ecological aspects (N = 235)	86
18. Evaluation of marketing effectiveness by fuel depots (N = 235).....	87
19. Assessment of the future of the hard coal market (N = 235)	92
20. Perception of customer outflow towards alternative heating sources (N = 235) .	93
21. Factors influencing the future of fuel depots (N = 235)	96
22. Actions taken by fuel depots in response to market changes (N = 235)	97
23. Adopted strategy for the coming years (N = 235)	98

Declining markets do not have to mean the end – they can mark the beginning of a new strategy. This monograph offers a comprehensive analysis of marketing management in the decline stage of a market, combining the theory of the product and industry life cycle with practical adaptation strategies. Using the example of Poland's hard coal sector – and taking into account the impact of the embargo and the war in Ukraine – the author examines modifications of the marketing-mix elements (product, price, distribution, promotion) under conditions of decreasing demand and institutional uncertainty. The study presents both an overview of the factors driving market contraction and the results of empirical research among coal depot employees (N = 235), identifying key determinants of marketing effectiveness. The author demonstrates how a flexible marketing mix, product diversification, and optimization of distribution channels can extend the product life cycle and sustain profitability despite regulatory and environmental pressures. This publication is an inspiring source of knowledge for managers, consultants, and scholars seeking to understand and leverage the potential of markets commonly regarded as being in decline.

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