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REPUTATION CONTROL AS A STRATEGIC RESOURCE FOR INDUSTRIAL ENTERPRISES: CURRENT CHALLENGES AND PERSPECTIVES

УПРАВЛІННЯ РЕПУТАЦІЄЮ ЯК СТРАТЕГІЧНИЙ РЕСУРС ПРОМИСЛОВИХ ПІДПРИЄМСТВ: СУЧАСНІ ВИКЛИКИ ТА ПЕРСПЕКТИВИ

Davydenko O.V.,
Student, gr. 174-24-1PhD,
LLC "Metinvest polytechnic technical university",
Zaporizhzhia, Ukraine

Давиденко О.В.,
студент, гр.174-24-1дф,
ТОВ «Технічний університет «Метінвест політехніка»,
м. Запоріжжя, Україна

Koyfman O.O.,
PhD (Engineering),
Associate Professor, LLC "Metinvest polytechnic technical university",
Zaporizhzhia, Ukraine

Койфман О.О.,
к.т.н., доцент,
ТОВ «Технічний університет «Метінвест політехніка»,
м. Запоріжжя, Україна

Reputation is one of the key intangible components of modern enterprises shaping their perception among external and internal stakeholders. In the scientific literature, reputation is interpreted as a collective judgement of an enterprise's quality, reliability, responsibility and competitiveness, formed based on its activities, achievements and communications. Reputation as an entity is regarded as a strategic asset capable of impacting competitiveness, financial stability and overall trust in a company.

Reputation control as both a scientific and practical discipline aims to purposefully shape, maintain and enhance a company's image among its key audiences. This includes monitoring the current state of reputation, assessing its strengths and weaknesses and developing measures to achieve a positive perception. Reputation encompasses several dimensions, including product quality, innovation, social responsibility, environmental sustainability, management transparency and employee relations. The impact of these components is reflected in customer satisfaction, investor trust and the efficiency of cooperation with partners.

Theoretical research in the field of reputation control and management highlights the importance of an integrated approach that considers both

internal and external factors. Internal factors include production performance, management system, employee satisfaction and the effectiveness of internal communications. External factors encompass the company's communication activity in the media, the level of social responsibility, involvement in environmental initiatives and engagement with stakeholders.

Reputation also carries economic value, as it influences a company's financial performance. Companies with a strong reputation incur lower costs when attracting investments, can secure better financing and procurement terms, and attract skilled and talented employees. In contrast, a poor reputation creates obstacles to development, increases marketing expenses and may lead to the loss of customers or sanctions from regulatory authorities.

Modern research on reputation highlights the importance of its monitoring and management in the digital age. The growing role of social media and online communications significantly accelerates the speed of information dissemination, both positive and negative. Enterprises must leverage tools to analyse the sentiment of mentions, identify key topics and forecast risks.

Reputation control also requires the use of complex mathematical models and analytical approaches. The theoretical foundations include the use of multidimensional models that account for the relationship between the company's performance indicators and its reputation level. However, despite the importance of the topic, the scientific literature still contains a limited number of studies on automating reputation management processes and leveraging artificial intelligence for dynamic analysis. This creates prospects for further research and improvement of existing approaches, including their adaptation to complex industrial environments.

Therefore, reputation is not only a social phenomenon, but also a strategic resource that demands a systematic approach to management, incorporating theoretical foundations, technological capabilities and current challenges of the business environment.

Reputation control as a discipline is actively developing, particularly given the growing significance of intangible assets in the global economy. A company's reputation is no longer merely a reflection of its past achievements, but also a tool for strategic influence on stakeholders, including customers, partners, employees and investors. Contemporary approaches to reputation control and management demonstrate the multifaceted nature of this asset, combining traditional approaches with the latest technologies and data analytics techniques.

In today's world, reputation is shaped not only by the quality of products or services, but also by a company's ability to meet the social, environmental and ethical expectations of society. For example, according to the Edelman

Trust Barometer 2022, approximately 60% of consumers consider brand reputation as a crucial factor in their purchasing and employment decisions, while over 80% of institutional investors demand company transparency in their operations, paying equal attention to ESG as to operational and financial performance. This demonstrates that reputation management requires a holistic approach addressing the interconnection between business processes, corporate communications and the external environment.

One of the key traditional methods of reputation management is analysing public opinion through sociological research and surveys. This provides an objective overview of the attitudes of various stakeholder groups towards the company. However, such methods lack dynamism and do not allow for a prompt response to changes in real time. Modern reputation control tools have significantly expanded the possibilities for analysis, monitoring and forecasting. Some of the popular systems that are widely used in business include:

1. Platform for assessing corporate reputation RepTrak System is based on standardised metrics such as products, innovation, leadership, workplace, civic responsibility and financial stability.
2. Platform for analysing social media data YouScan uses artificial intelligence to identify trends, predict risks and analyse customer feedback.
3. Social media monitoring tool Brandwatch enables the analysis of brand mentions tone, identification of key discussion topics and evaluation of campaigns.

There are numerous platforms for managing digital marketing, content, online mentions and reviews, identifying trends and evaluating the effectiveness of campaigns, such as Reputation.com, Hootsuite, Sprout Social, and others.

These tools enable automated monitoring of companies' media activity, analyse the sentiment of mentions and identify risk trends, allowing businesses to address reputational challenges promptly.

According to Deloitte's Reputation@Risk study, 87% of executives consider reputational risks the most critical among other strategic risks to their businesses, identifying reputation as one of the most important intangible assets. The report also revealed that 41% of companies that suffered reputational damage experienced a loss in revenue, with some experiencing a decline of over 20%.

Modern companies use reputation metrics as a key component of strategic planning. For example, indicators such as Net Promoter Score (NPS), customer satisfaction (CSAT) and media activity help businesses evaluate the effectiveness of their initiatives and shape long-term strategies. In the mining

and metals industry, indicators reflecting environmental responsibility, community engagement, business transparency, investment and modernisation, and employee satisfaction are particularly important as they influence partnerships and access to investment.

Modern mathematical approaches are emerging as key tools for optimising reputation control processes, providing deeper data analysis and accurate forecasts. Their application allows companies to evaluate the impact of various factors on reputation more reasonably and adapt their strategies to dynamic changes in the external environment.

Regression analysis is a basic method for identifying quantitative correlations between internal performance indicators (e.g. product quality, resource utilisation efficiency) and reputational indicators (media activity, tone of media mentions, stakeholder loyalty). This analysis enables the company to identify which internal aspects have the greatest impact on its perception and develop recommendations for their improvement. For example, if a regression model indicates that switching to modern production technologies significantly improves reputation in the long run, the company can invest in relevant modernisation projects.

Systems of differential equations allow modelling dynamic changes in reputation over time, considering the interaction of internal and external factors. This approach is particularly beneficial for predicting the long-term effects of crises or implementing new strategies. For example, a system of equations can explain how a company's speed of response to a crisis impacts reputation recovery following negative events. This allows companies to optimise their communication processes, develop the necessary communication tools and minimise losses associated with reputational risks.

The Monte Carlo method is used to model the probability of various scenarios and assess risks. It enables to consider a wide range of uncertain factors affecting reputation and assess the likelihood of negative scenarios. For example, the method can be applied to analyse risks in the event of a large-scale incident (environmental, hostilities, social disruption or cyber-attack) by modelling its impact on the company's reputation depending on the effectiveness of crisis management measures.

Despite their significant benefits, implementing these methods in reputation control and management practices faces certain challenges. The main obstacles include the complexity of integrating different types of data (e.g. production, financial, social) and absence of a high level of automation of analytical processes, the need for access to qualitative data and investment in data processing technologies, the absence of standards and the dynamic nature of external changes. At the same time, these methods hold significant potential for the

development of reputation management. Integrating mathematical approaches with modern artificial intelligence and automation technologies can greatly simplify the analysis process and increase its accuracy. This opens up new opportunities for businesses seeking not only to effectively manage their reputation, but also to leverage it as a strategic resource to drive sustainable development and competitiveness in the global market.

The automation of reputation control and management processes is one of the most promising areas of business development in the face of digital transformation. In today's business environment, reputation is a multidimensional asset shaped by a wide range of internal and external factors. However, despite the growing importance of reputation management, the introduction of automated systems capable of accounting for all key parameters remains limited.

Today, there is a significant number of automation tools that monitor specific aspects of reputation. For example, the aforementioned social media analysis systems such as Brandwatch or YouScan utilise natural language processing (NLP) algorithms to analyse the sentiment of company mentions. Other tools focus on assessing the overall level of corporate reputation based on standardised metrics. However, while these systems are effective within their respective functions, they do not provide an integrated approach to reputation management, as they fail to consider the interrelationships between internal business indicators, reputational risks and the company's strategic goals.

The lack of comprehensive automated reputation control and management systems is the result of several factors. Firstly, reputation as a phenomenon is complex and multifaceted, making it challenging to formalise in the form of mathematical models. Secondly, the integration of data from various sources, such as production systems, financial indicators, social media data and stakeholder surveys, requires a strong analytical infrastructure. Thirdly, there is a lack of cross-industry standards that regulate the development of universal reputation management systems.

Automated reputation control and management systems have prospects for significant improvement through the integration of modern technologies such as artificial intelligence and machine learning. By leveraging neural networks and machine learning algorithms, these systems can process large volumes of data in real time, detect hidden patterns and predict reputational risks. For example, deep learning systems can analyse the sentiment of media mentions, considering not only textual information but also visual content.

One of the main tasks in developing holistic systems is to create models that account for the impact of internal business indicators on reputation and, vice versa, the impact of reputation on financial performance and company

strategy. This approach would enable the integration of reputation control into the overall economic planning system, making this process an integral part of operational management and strategic development.

In addition, automation reduces the impact of the human factor on decision-making, which is especially important in crisis situations when response time is critical. For example, in the event of a reputational crisis, the system can automatically identify sources of negative mentions, assess the scale of the issue and suggest effective measures to address it.

Despite the apparent benefits, modern businesses still underutilise the capabilities of automated reputation management systems. Most companies limit themselves to implementing tools for assessing specific reputation indicators or monitoring media activity. Consequently, the strategic potential of reputation as an integrated resource remains undervalued.

Modern approaches to reputation control are multidimensional and integrated, combining analytical methods and digital tools. They allow businesses not only to protect their image, but also to leverage reputation as a strategic resource to gain competitive advantage. Despite this, there is significant potential for further improvement, particularly through the development of comprehensive automation systems that consider all key reputational and business indicators. This will not only enhance the efficiency of reputation management but also ensure long-term competitiveness in the global market.

Such systems are critical for mining and metals companies, as they drive better financial performance, sustainable development and stakeholder trust.