

The application of the Foresight Maturity Model (FMM) in a manufacturing company

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Abstract

Global changes, the uncertainty of the environment and the changing expectations of customers force companies to look for tools that support the anticipation of the future. The main aim of the article is to demonstrate the essence of strategic foresight and identify its role in the development of a company's strategy. In particular, the article describes the Foresight Maturity Model developed by T. Grimm (2009), which allows entrepreneurs to assess their foresight capabilities in such spheres as leadership, framing, planning, scanning, forecasting and visioning. The practical part of the article is devoted to the description of FMM model application in a manufacturing company which deals with production of welding automation equipment. The research process used a literature review, a logical analysis and a construction method as well as a case study.

Keywords

strategic foresight, strategic planning, foresight maturity model

Introduction

The worldwide spread of the Covid 19-pandemic, shortening of product lifecycles [Kessler and Chakrabarti, 1996, p. 1143] as well as increased technological change [Sood and Tellis, 2005, p.163] and innovation speed [Parry et al., 2009, p. 627] make it difficult to anticipate the company's future.

The business environment of most enterprises is characterized as dynamic, fast-changing and unpredictable, which requires companies to be flexible and constantly prepared for changes [Kaivo-oja and Lauraeus, 2018, p.27]. In order to meet these challenges, companies should distinguish themselves by their immediate readiness to provide a high degree of flexibility and adaptability which can be achieved through the use of strategic foresight. Foresight applied in the enterprises serves as a link between constantly changing environment, potential growth opportunities and a company's strategy and tactics. Strategic foresight in a company's strategy development is aimed at determining the desired strategy and a possible scenario, assessing the consequences of current actions and decisions and considering the current consequences of possible future actions [Rohrbeck, 2010, p.12].

Strategic foresight serves an umbrella term for all the organizational activities embracing environmental scanning, the selection of strategic options enabling the enterprise to detect wild cards and weak signals of possible change early enough to interpret the consequences for the organization and formulate responses, while at the same time maintaining a high-quality, coherent and functional forward view [Rohrbeck, 2010; Slaughter, 1995; Peter and Jarrat, 2015]. Terms like, "corporate foresight", "strategic business intelligence", "organizational foresight" are also used to describe this field of practice [Ruff, 2015; Kononiuk et al., 2017, p. 21]. Therefore, in the article the terms mentioned above are used interchangeably.

Hence, applying corporate foresight for the company's strategy creation strengthens the enterprise in a future-oriented and pro-innovation approach, helps to determine areas in which the enterprise should create an expertise view, concentrate its strengths and measures and aims at distinguishing a company in terms of future competition, taking into account the emergence of new trends and possible threats and opportunities.

The aim of the article is to present the concept of strategic foresight and its role in creating a company's strategy as well as to demonstrate the possibility of FMM (Foresight Maturity Model) usage for the assessment of future-oriented activities undertaken by the enterprises within the spheres of leadership, framing, planning, scanning, forecasting and visioning. The article focuses also on the description of FMM usage in a manufacturing enterprise which deals with manufacturing of professional, technology advanced power tools (electrical equipment) and industrial equipment.

1. Corporate foresight and its role in creating the company's strategy

Foresight has become an advanced concept of the “future studies” that replaces traditional management and forecasting technologies in terms of creating a company's strategy. The application of foresight in the enterprise allows not only to explore the prospects for future development, but also actively shapes it despite conditions of a high degree of uncertainty and volatility of the company's environment. The growing instability of the environment increases the need for future-oriented activities which allow companies to investigate into the future, anticipate and shape it on the basis of technological, social and organizational context [Jemala, 2010, pp. 24-27; Nazarko et al., 2015, 2017].

In the existing published works, there are many definitions that are applied to the term “strategic foresight”. Scholars who conducted research in the field of organizational foresight included among others: Burmeister, Neef and Beyers (2004), Hojland (2010), Rohrberck (2015), Dadkhah (2018) and Coeckelbergs (2020), to name but a few.

The main definitions of strategic foresight are represented in Table 1.

Tab. 1. Definitions of strategic foresight

Authors	Definitions
Burmeister et al. (2004)	Strategic foresight is “a communication process that results in a medium to long-term vision of future markets, consumer needs, social challenges that support the company's potential, competitive and innovative capacity”
Hojland (2010)	Strategic foresight is “a set of methods which facilitate exploring new businesses by identification of the drivers or change conducting factors (conception), describing the consequences of stimulants both individually and collectively (discovery) and initiatives that enable valued choices and designing services, products and market exploration”
Rohrberck et al. (2015)	Strategic foresight is a capability that covers any structural or cultural component that empowers the company to recognize a discontinuous change early, interpret the consequences for the company, and define effective responses to assure the long-term viability and success of the company. Corporate foresight enables an organization to lay the foundation for future competitive advantage, since it facilitates the identification, observation, and interpretation of factors that induce change, determine possible organization-specific implications, and triggers appropriate organizational responses
Dadkhah (2018)	A set of methods which support exploring new businesses through identifying stimulants or change conducting factors (conception), describing the consequences of stimulants both individually and collectively (discovery) and initiatives that permit valued choices and designing services, products and market admiration (exploration)

Coeckelbergs (2020)	Strategic foresight is an ongoing systemic process which explores possible futures to make organizations more resilient and better prepared for the future than today. It is a powerful strategic tool to manage uncertainties and to explore systemic innovation for new product development
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Source: [Müller, 2008, p. 24-25; Dadkhah et al., 2018 p. 2; Rohrberck, 2015, p. 11; Coeckelbergs, 04.11.2020].

On the basis of definitions of strategic foresight outlined in Table 1, it can be concluded that strategic foresight is a comprehensive and cross-functional process that covers such disciplines as strategic management, innovation management, corporate development, research and development, forecasting and strategic controlling (Figure 1).

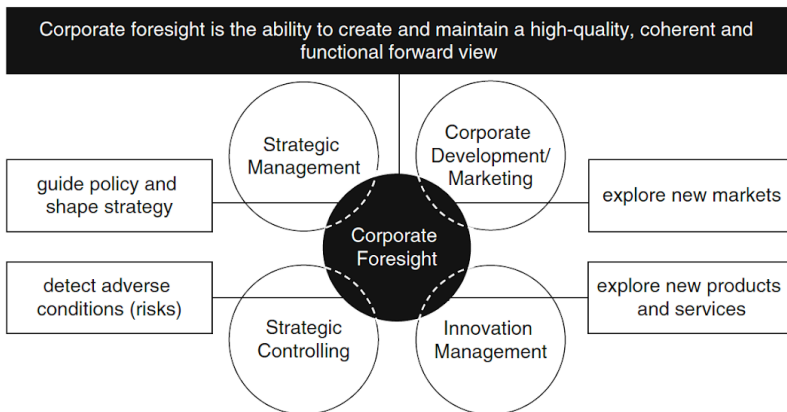


Fig. 1. The scope of corporate foresight

Source: [Rohrbeck, 2010, p. 12].

Corporate foresight in the field of strategic management is able to retain a consistent and functional vision and strategic directions as a consequence of the interpretation of future information in various areas. For instance, corporate foresight involves corporate development and marketing that facilitate the detection and exploration of new markets as well as innovation management which is aimed at discovering new products and services. It also includes strategic controlling which deals with defining risks based on these insights [Rohrbeck, 2010, p. 12].

The implementation of corporate foresight requires the company to collect data from foresight studies systematically and the mutual cooperation of units and entities involved in future-oriented activities in the company [Tony, 2018, p. 82]. The result

is an image of the future of the company and its environment consisting of a large amount of information on the economy, technology, markets, customers and society, which allows the company to prepare strategic decisions and ensure a long-term advantage. It is generally presumed that the crucial feature of corporate foresight activities is building a strong external and internal network based on the integration of top-management, key stakeholders and employees with relevant experience and skills with an aim to gather information from different perspectives and deal with matters regarding corporate foresight [Rohrberk, 2010, p.12].

Therefore, it can be stated that corporate foresight is a long-term organizational and communication process focused on the business environment and based on an interdisciplinary, participatory and communication approach, which enables companies to make a strategic reorientation in time and consists in a systematic and continuous analysis of possible, probable, desirable or dangerous directions of development of the future.

Considering the nature of corporate foresight, it can be determined that corporate foresight could be a core competence in creating a company strategy, because it supports strategic actions by providing decision-makers with alternative development scenarios that depend on the values taken by certain key factors which are based on a comprehensive analysis of the company's environment (both external and internal) [Reicherz, 2015, p. 93].

In linking corporate foresight with strategic management, it should be stated that strategic management manifests a comprehensive and continuous process of formulating and implementing effective strategies conducive to maintaining the level of balance between the organization and its environment and achieving strategic objectives [Conway, 2006, p. 6].

Furthermore, corporate foresight is not only about the final outcome of the process but it also considers the process of its implementation, making changes and adjustments, while strategic planning is dominated by the identification of the objective and its implementation. Consequently, this leads to the conclusion that foresight and strategic management complement each other.

While connecting corporate foresight and the company's strategy development, it should be noted that the process of corporate foresight makes it possible to analyze and envisage the company's activity and environment extensively, because corporate foresight encompasses political environment foresight, technology foresight, as well as both consumers and competitive foresight.

The links between corporate foresight and the strategy-building process are depicted in Figure 2.

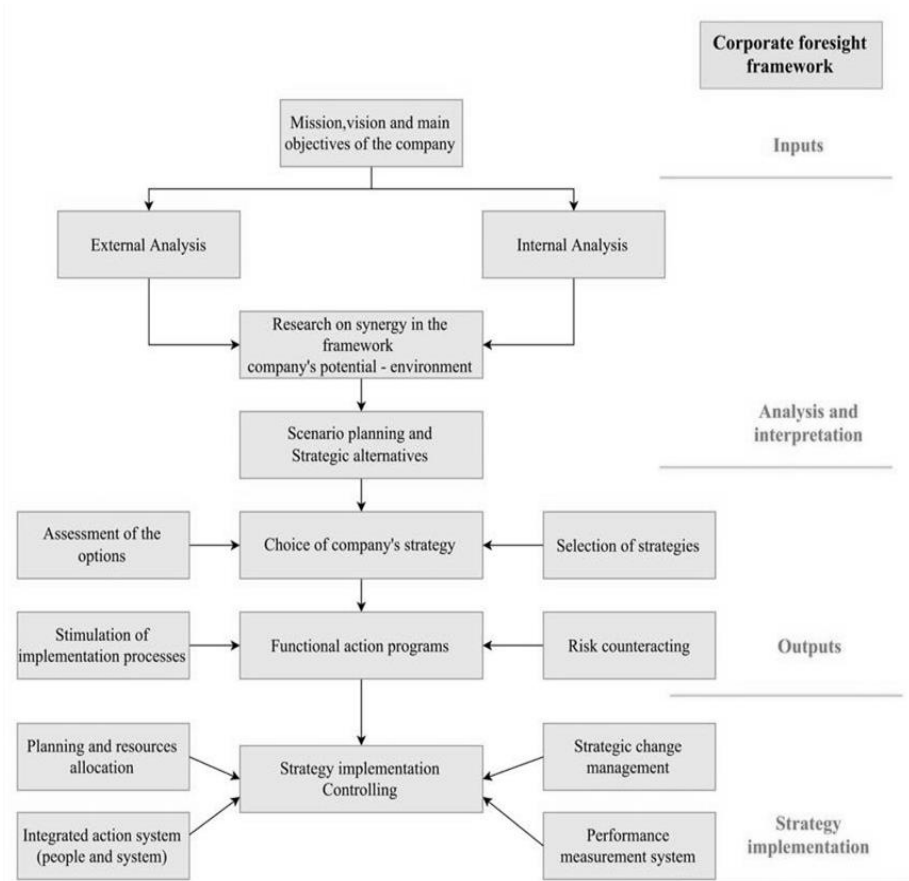


Fig. 2. Linking corporate foresight and the strategy development process

Source: authors' own study.

From Figure 2 it can be seen that corporate foresight strategy development processes complement each other, because both processes regarding formulating the company's strategy consist in analyzing the company's environment and adapting the current strategy to the environmental resources, defining possible strategies and scenarios and selecting a strategy based on the principle of the best matching of the strengths and weaknesses of the organization to the opportunities and threats in the environment.

By providing continuous environmental scanning, corporate foresight makes it possible to introduce changes in the company's strategy in time and adapt it to current conditions, which increases readiness to accept future changes.

In addition, corporate foresight encompasses political environment foresight, technology foresight, both consumers and competitive foresight, which allows the company to prepare strategic decisions and ensure a long-term advantage, enhancing the exploration of new business fields, the initiation of new product development projects and, as a result, gaining a competitive advantage. It can therefore be concluded that there is a high potential for the application of foresight in strategic management.

Thus, it can be stated that corporate foresight is a long-term organizational and communication process focused on the business environment and based on an interdisciplinary, participatory and communication approach, which enables companies to make a strategic reorientation in time and consists in a systematic and continuous analysis of possible, probable, desirable or dangerous directions of development of the future.

The evaluation of corporate foresight capability and expertise in the company is possible by means of applying the Foresight Maturity Model, which is presented in the next section.

2. Foresight Maturity Model framework as a method for evaluating corporate foresight ability

Despite the development of various maturity models that can be applied to a variety of business areas, including corporate foresight, the most developed and practically meaningful model is considered the Foresight Maturity Model developed by T. Grimm [2009], based on the framework outlined in *Thinking about the Future* authored by futurists Hines and Bishop [2006].

The concept of the Foresight Maturity Model developed by Grimm is based on the ability to assess the processes taking place in the organization in accordance with the best management practices on the basis of clearly formulated external benchmarks. It is stated that the models are evolutionary, meaning that a higher degree of maturity is possible after a lower degree of maturity has been reached. The Foresight Maturity Model relies on the ability to evaluate processes facilitating the realization of the company's vision, as desired by stakeholders, oriented towards internal resources and external environment factors [Grim, 2009, p. 73].

Grimm approaches the Foresight Maturity Model framework, taking into account both the process and the cultural approaches to the maturity of the organization, and defines such substantive disciplines as: leadership, framing, scanning, forecasting, visioning and planning.

The characteristics of these disciplines are represented in Table 2.

Tab. 2. Characteristics of Foresight Maturity Model disciplines

Discipline	Characteristics
Leadership	Expressed in the involvement of many employees in the creation of a vision of the development of the organization. A collection of good practices conducive to the implementation of foresight research capability
Framing	It creates a structure that focuses attention and enables the organization to build pictures of possible futures. Establishment of boundaries and scope of activities
Planning	Positioning and using organizational resources to implement desired visions of the company's development. Providing plans, people and skills to support the implementation of the organizational vision
Scanning	Analysis and collection of appropriate and relevant information in a format and timeframe that support the development of the organization
Forecasting	It is expressed in the assumption that there is more than one vision for the development of an organization. Each of the development alternatives creates unique implications for the existing state of the organization. Providing the description of long-term outcomes that contrast with the present to enable better decision-making
Visioning	It is expressed in creating the desired vision of the future and the related ideals and values

Source: [Grimm, 2009, p. 70].

Each of these disciplines, when determining maturity models, has its own, specific scale of activity, which allows to achieve the desired effect. For each discipline, a detailed matrix describes maturity indicators for each maturity level of each practice within the discipline. The higher the outcome of the practice, the more precise and perfect the Foresight Maturity Model is.

The Foresight Maturity Model consists of five basic maturity levels, the characteristics of which are described in Table 3.

Tab. 3. Characteristics of foresight maturity levels

Foresight Maturity Level	Characteristics
Ad hoc (level 1)	The organization is not or is only marginally aware of processes and most work is done without plans or expertise. This is the initial stage for any practice
Aware (level 2)	The organization is aware that there are best practices in the field and is learning from an external input and past experiences
Capable (level 3)	The organization has reached a level where it has a consistent approach for a practice used across the organization, which delivers an acceptable level of performance and return on investment
Mature (level 4)	The organization has invested additional resources to develop expertise and advanced processes for a practice

World-class (level 5)	The organization is well-known for its ability to arrive at insightful measurements that clearly illuminate and calibrate prioritized outcomes. The organization is considered a leader in this area, often creating and disseminating new methods. Strategic decisions are continuously refined, based on real time data captured in a highly integrated intelligence system
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Source: [Grimm, 2009].

The above mentioned components of the maturity model allow to carry out a comprehensive assessment of the company's activity in different disciplines, and thus to identify the level of maturity of the company from *ad-hoc* to world-class.

The Foresight Maturity Model is an advanced framework which allows to evaluate the corporate foresight ability and determine the foresight maturity level in the company both from process and cultural approaches, because it considers such disciplines as leadership, framing, planning, scanning, forecasting and visioning.

This explains why, based on this model, the analysis of the corporate foresight ability and the determination of the foresight maturity level of the studied company will be presented in the next section.

3. Assessment of foresight maturity in a manufacturing enterprise

As the subject of the study a manufacturing enterprise was chosen, which deals with manufacturing of professional, technologically advanced power tools (electrical equipment) and industrial equipment. The company has been developing systematically every year, expanding the range of manufactured products and improving their quality. Currently, the company is one of the world's leading manufacturers of electrical equipment. The enterprise exports about 90 percent of its production to over 80 countries around the world, producing more than 300 unique products as well as providing service.

In terms of production, the company's strategy includes further process robotization, implementation of the ATO (Assemble to Order) system, the aim of which is to better adjust the final product to the customer's requirements and visualize production results in order to obtain full information about the current situation, potential problems and ways to solve them.

The company also intends to work on further expansion and diversification of the distribution network. It is constantly improving internal processes within the LEAN concept as well as changing production methods and its planning in order to meet the growing demand. The ambition of the company is also to build a network

of partners with the aim of increasing the possibility of adapting the business to changing environmental conditions.

In the course of the research into defining the role of corporate foresight as a method of building a company’s strategy, it was decided to conduct a study and assess the maturity level of corporate foresight based on the foresight framework developed by Grimm.

The aim of this practical research is to understand where the investigated organization is located in terms of corporate foresight and where the most effective use of the enterprise’s resources can be made in order to maximize an added value.

Accordingly, the results of the study enable to determine the current state of foresight maturity level in the company, identify areas for improvement and define a set of good practices in achieving the desired state of corporate foresight maturity (Figure 3).

The Foresight Maturity Model is based on a survey of the company’s employees which consists of 25 questions in such disciplines as leadership, framing, scanning, forecasting, visioning and planning. Each discipline contains between 3 and 5 statements which determine the level of competence of the company in different activities for each discipline – leadership, framing, planning, scanning, forecasting, visioning. Within an organization, each practice (and thus each discipline) may be assigned to one of five levels of maturity – from ad-hoc to world-class level.

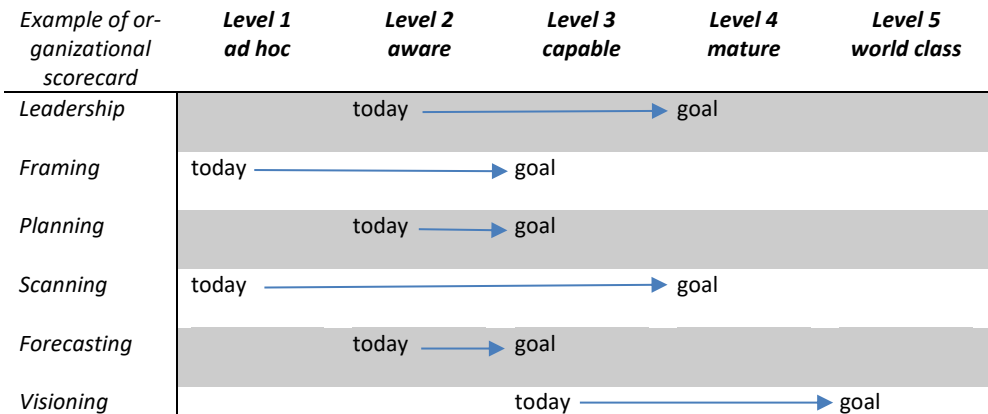


Fig. 3. Example of Organizational Scorecard (Foresight Maturity Model)

Source: [Grimm, 2009, p. 74].

The main purpose of the survey was to determine the level of activities and achievements of the company in each of the disciplines. Each question was supported with several variants of answers, which made the survey process more transparent.

Based on the conducted research, one may conclude that the leadership discipline in the investigated company is located at the capable level. The enterprise established informal structure in the organization, which is responsible for anticipating and responding to the phenomena occurring in the organization's environment. Foresight activities are conducted in the company irregularly (mostly once a year).

The framing discipline allows to evaluate the development of a structure in the organization for building alternative visions of the future. Generally, it can be argued that the company developed a structure which allows to build company strategy effectively based on future anticipation and has a potential to adapt a mechanism that allows to carry out a systematic analysis of influencing factors and adjust the process development of new projects in accordance with changes of customer requirements. This ensures that the company maintains highly competitive positions.

Regarding the planning discipline, it may be stated that the investigated company introduced formal procedures and programs in order to encourage optimization of employees' involvement and the communication system in order to achieve proper implementation of the developed strategy. Therefore, the maturity level of the planning discipline is assessed as capable, which means that the company has a consistent approach for the planning process and uses it across the organization. At the same time, the drawback of the planning process in the company may be that it does not provide its own procedures, schemes and an information system for analyzing a wide range of possible scenarios and their implications for the company that could facilitate its planning process.

The next stage of the foresight maturity analysis was the assessment of the scanning discipline, which characterizes the process enabling the analysis and grouping of environmental factors influencing the company's development. Based on the results obtained from the scanning discipline, it might be concluded that the company conducts an analysis of the factors that can affect changes in its strategy, based on different types of resources, and incorporates it within its structure. Also, the company has a unified system, in which all the necessary information is collected and available to its employees in the open access. On the other hand, the enterprise lacks developed innovative, dynamic models and systems that allow it to acquire a broad expertise in the issues related to the industry.

Another analyzed discipline, according to the FMM, is forecasting, which focuses on describing long-term results that contrast with the current ones, allowing

for more effective decision-making. It can be deduced that the studied company forecasts its activities on the basis of background analysis, but at the same time, takes into account the basic needs of customers and possible changes in trends in the future. The company makes foundations in order to develop alternative development options for the future, taking into account the possible consequences of their implementation.

The last analyzed discipline was visioning, which is expressed in the creation of a desired vision of the future and values associated with it. In terms of the visioning discipline, the company is located at the capable level, which means that it makes foundations in order to develop alternative options for the future, taking into account possible consequences of their implementation.

On the basis of the performed analysis, it is possible to determine the general level of foresight in the investigated company.

According to the methodology of the Foresight Maturity Model, the enterprise cannot reach higher levels of maturity in general when at least one of the disciplines is evaluated at a lower level. Accordingly, such disciplines as forecasting and framing are determined as capable, but visioning, scanning, planning and leadership were assessed as the aware maturity level. Therefore, the general foresight maturity level for the investigated company is defined as aware (Figure 4). It means that the foresight process in the enterprise is dispersed and does not function as a single integrated system. The low level of foresight implementation is also related to the lack of comprehensive models and evaluation criteria which allow to evaluate phenomena occurring in the company's environment in order to redefine its strategy.

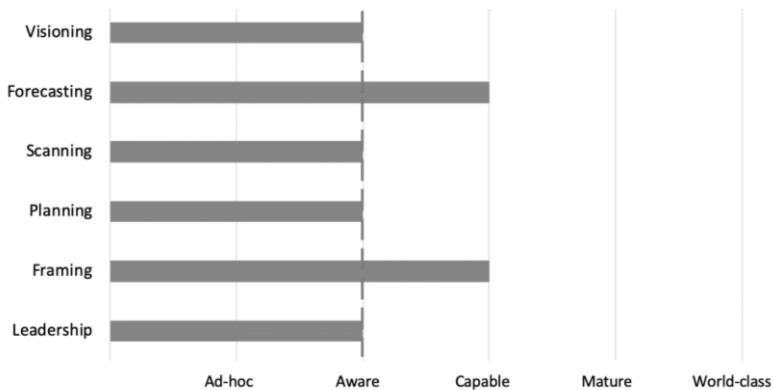


Fig. 4. Overall result of the Foresight Maturity Model in the studied company

Source: authors' own study.

Therefore, on the basis of the conducted research, the following recommendations were developed in order to improve the future orientation of the company:

- establishing a strategic development department which will be involved in creating strategic alternatives within the framework of corporate foresight, defining goals and objectives, adjusting the company's strategy using the system of integrated indicators;
- creating of a balanced map of key indicators, which will help to assess the implementation of the company's strategy and the need for its changes;
- organizing training sessions for employees (corporate foresight workshops) for personnel of different levels, whose interests will be affected by structural changes in the company;
- conducting foresight sessions in order to develop alternative scenarios and identify areas for improvement;
- implementing regular procedures in order to monitor all factors that influenced the strategy development process and adapt the strategy for the planned period.

The implementation of the proposed recommendations could bring a number of benefits to the enterprise. First of all, the activities, if undertaken, could enhance strategic flexibility of the company, manifesting in the company's ability to identify changes and react to them. In addition, they could enable focusing on creating an effective company strategy, developing and redefining action plans according to environmental factors.

Conclusion

On the basis of both literature review on foresight and the conducted study it could be concluded that corporate foresight is a long-term organizational and communication process focused on the business environment. It is based on an interdisciplinary, participatory and communication approach which enables companies to make a strategic reorientation in time and consists in a systematic and continuous analysis of possible, probable and desirable directions of development of the future. Foresight acts as a continuous and interconnected link among strategic management, innovation management and future studies in a company and could contribute to the success of the enterprise in the field of future orientation.

Considering the nature and aspects of corporate foresight, it can be determined that corporate foresight is a core competence in creating a company's strategy, because it supports strategic actions by providing decision-makers with alternative development scenarios that depend on values taken by certain key factors, which are

based on a comprehensive analysis of a company's environment (both external and internal).

In addition, corporate foresight benefits companies by customizing their strategic planning and by tailoring the foresight input. By providing continuous environmental scanning, corporate foresight makes it possible to introduce changes in a company's strategy in time and adapt it to current conditions what increase readiness to accept future changes. Therefore, the corporate foresight process must be integrated into the management process and perceived as one of the most important assets for the formulation of a company's strategy.

The Foresight Maturity Model proved to be a useful tool for supporting the building of the company's strategy as well as for providing an assessment of potential opportunities in the corporate foresight ability and main areas where future-oriented activities of the company should be enhanced. The application of the Foresight Maturity Model in the company allows to gain the following advantages: establishing long-term development priorities; building a management team focused on maximizing the company's value as well as creating an early response system in order to meet and respond to changes in the internal and external environment.

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References

1. Dadkhah S., Bayat R., Fazli S., Tork E., Ebrahimi A. (2018), *Corporate foresight: developing a process model*, European Journal of Futures Research 6, pp. 2-10.
2. Coeckelbergs R., *Building Resilient Organisations with Foresight and Horizon Scanning* [04.11.2020]
3. Conway M. (2006), *An overview of foresight methodologies*, Thinking Futures, pp. 1-10.
4. Ejdys J., Kononiuk A. (2013), *Doskonalenie zarzadzania strategicznego poprzez wykorzystanie koncepcji badan foresightowych*, Przegląd Organizacji 1, s. 8-13.
5. Foresight Maturity Model, Foresight Alliance, <http://www.foresightalliance.com/resources/foresight-maturity-model/> [04.06.2019]
6. Grim T. (2009), *Foresight Maturity Model (FMM): Achieving best practices in the foresight field*, Journal of Futures Studies 13(4), pp. 69-80.

7. Hill C., Jones G., Schilling M. (2014), *Strategic management theory: an integrated approach*, Cengage Learning.
8. Hines A., Bishop P. (2006), *Thinking about the Future: Guidelines for Strategic Foresight*, Social Technologies LLC, Washington.
9. Hines A. (2006), *Strategic foresight: the state of the art*, *The Futurist* 40 (5), pp. 27-39.
10. Hines A., Gary J., Daheim C. (2017), *Building foresight capacity: toward a foresight competency model*, *World Futures Review* 9(3), pp. 123-141.
11. Jemala M. (2010), *Evolution of foresight in the global historical context*, *Foresight* 12(4), pp.71-89.
12. Hojland J., Rohrbeck R. (2018), *The role of corporate foresight in exploring new markets –evidence from 3 case studies in the BOP markets*, *Technology Analysis & Strategic Management*, 30(6), pp. 734-746.
13. Kaivo-oja, J.R.L., Lauraeus, I.T. (2018), *The VUCA approach as a solution concept to corporate foresight challenges and global technological disruption*, *Foresight* 20, pp. 27–49.
14. Kessler E. H, Chakrabarti A. K (1996), *Innovation speed: a conceptual model of context, antecedents, and outcomes*, *Academy of Management Review* 21(4), pp. 1143–1191.
15. Kononiuk A., Sacio-Szymańska A., Gaspar J. (2017), *How do companies envisage the future? Functional foresight approaches*, *Engineering Management in Production and Services* 9 (4), pp. 21-33.
16. Kononiuk A., Sacio-Szymańska A., Tommei S. (2017), *Foresight w sektorze biznesu, Mobilizing corporate foresight potential among V4 countries*, Wydawnictwo Naukowe Instytutu Technologii Eksploatacji, Radom.
17. Kononiuk A. (2014), *Dojrzałość foresightowa przedsiębiorstw usługowych i produkcyjnych*, *Zeszyty Naukowe. Organizacja i Zarządzanie, Politechnika Śląska*. 73, pp. 269-279.
18. Muller A. (2008), *Strategic Foresight: Prozesse strategischer Trend-und Zukunftsforschung in Unternehmen*, Doctoral dissertation, Verlag nicht ermittelbar.
19. Nazarko J., Ejdys J., Halicka K., Magruk A., Nazarko Ł., Kononiuk A., Olszewska A. (2017), *Factor Analysis as a Tool Supporting STEEPVL Approach to the Identification of Driving Forces of Technological Innovation*, *Procedia Engineering* 182, pp. 491-496.
20. Nazarko J., Radziszewski R., Dębowska K., Ejdys J., Gudanowska A., Halicka K., Kilon J., Kononiuk A., Kowalski K. J., Król J. B., Nazarko Ł., Sarnowski M., Vilutienė T. (2015), *Foresight Study of Road Pavement Technologies*, *Procedia Engineering* 122, pp. 129-136.
21. Parry M. E., Song M., De Weerd-Nederhof P.C., Visscher K. (2009), *The impact of NPD strategy, product strategy, and NPD processes on perceived cycle time*, *Journal of Product Innovation Management* 26(6), pp. 627-639.

22. Pacelli V. (2012), *Forecasting Exchange Rates: a Comparative Analysis*, International Journal of Business and Social Science 3 (10), pp. 31-45.
23. Peter, M. K., Jarratt, D. G. (2015), *The practice of foresight in long-term planning*, Technological Forecasting & Social Change 101, pp. 49-61.
24. Reicherz S. (2015), *Strategische Frühaufklärung: ein ganzheitlicher Ansatz als Leitfa-den für Unternehmen*, Wuppertaler Schriften zur Forschung für eine nachhaltige Ent-wicklung, Munchen.
25. Rohrberk R. (2010), *Corporate Foresight Towards a Maturity Model for the Future Ori-entation of a Firm*, Physica-Verlag, Berlin.
26. Rohrbeck R., Battistella C., Huizingh E. (2015), *Corporate foresight: An emerging field with a rich tradition*, Technological Forecasting and Social Change 101, pp. 1-9.
27. Rohrbeck R., Kum M.E. (2018), *Corporate foresight and its impact on firm perfor-mance: A longitudinal analysis*. Technological Forecasting and Social Change 129, pp. 105-116.
28. Ruff F. (2015), *The advanced role of corporate foresight in innovation and strategic management – Reflections on practical experiences from the automotive industry*, Tech-nological Forecasting and Social Change 101, pp. 37-48.
29. Sacio-Szymańska A. (2016) (ed.), *Corporate Foresight Potential in Visegrad (V4) Countries*, Institute for Sustainable Technologies – National Research Institute, Radom
30. Slaughter R.A. (1995), *The foresight principle: cultural recovery in the 21st century*, London, England: Ada-mantine Press.
31. Sood A., Tellis G.J. (2005), *Technological evolution and radical innovation*, Journal of Marketing 69(3), pp. 152–168.
32. Toni A.F., Siagri R., Battistella C. (2016), *Corporate Foresight: Anticipating the Future*, Routledge, New York.

Zastosowanie modelu dojrzałości foresightowej (FMM) w przedsiębiorstwie produkcyjnym

Streszczenie

Globalne zmiany, niepewność otoczenia oraz zmieniające się oczekiwania klientów, wymuszają na przedsiębiorstwach poszukiwanie narzędzi wspierających antycypowanie przyszłości. Celem artykułu jest prezentacja foresightu strategicznego jako procesu kształtowania

przyszłości organizacji oraz ukazanie jego związku z budowaniem strategii w przedsiębiorstwie. W szczególności, w artykule opisano możliwości zastosowania modelu dojrzałości foresightowej (FMM) T. Grimm (2009) do oceny aktywności podejmowanych przez przedsiębiorstwa w obszarze przywództwa, wyznaczania celów, planowania, skanowania, prognozowania oraz wyznaczania wizji rozwoju organizacji. Część praktyczna artykułu poświęcona jest opisowi zastosowania modelu FMM w przedsiębiorstwie zajmującym się produkcją szerokiej gamy zaawansowanych technologicznie profesjonalnych elektronarzędzi oraz sprzętu dla przemysłu. W procesie badawczym wykorzystano przegląd literatury, metodę analizy logicznej i konstrukcji oraz studium przypadku.

Słowa kluczowe

strategic foresight, strategic planning, foresight maturity model