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FORESIGHT IN SME COMPANIES

Key words: Foresight in SME, approaches to foresight in SME, strategy.

Abstract: Research about the application of strategic foresight methods in small- and medium-sized companies (SME) is rarely discussed in literature. The aim of the paper is to investigate possible approaches to strategic foresight in SMEs as well as to present a detailed case study of its application based on an original approach. The main research methods used in this paper is a literature review of foresight research conducted in SMEs and the case study describing the process of foresight implementation in a small manufacturing enterprise.

Foresight w małych i średnich przedsiębiorstwach

Słowa kluczowe: foresight w małych i średnich przedsiębiorstwach, modele foresightu w małych i średnich przedsiębiorstwach, strategia.

Streszczenie: Zastosowanie metod foresight strategicznego w małych i średnich przedsiębiorstwach jest rzadko dyskutowane w literaturze przedmiotu. Głównym celem artykułu jest identyfikacja i ocena możliwych podejść do implementacji foresightu w MŚP, jak również prezentacja wdrożenia tego narzędzia w małej firmie na podstawie autorskiego modelu. Badanie zostało przeprowadzone w ramach projektu „Platforma B+R – innowacyjny model współpracy pomiędzy nauką, biznesem oraz administracją w województwie podlaskim” koordynowanego przez Białostocką Fundację Kształcenia Kadr.

Introduction

Foresight research is a process aimed at studying potential future developments through a variety of approaches. Although there is a strong link between foresight and innovation, its implementation in the company's daily routine or a strategy is not always clear. The aim of the paper is to investigate possible approaches to strategic foresight in SMEs as well as to present a detailed case study of its application in a small company. While corporate foresight is broadly discussed in the existing published works and thoroughly studied in practice, SME foresight has received less attention. Neef and Daheim [1] state, 'small and medium sized enterprises (SMEs) are a white spot in foresight research carried out in enterprise, even though their contribution to employment, value creation, and innovation is well recognized'. Nevertheless, research on strategic foresight in SMEs seems to be an emerging field in the foresight practice. As noted by Van de Vrande [3], the

innovation process within SMEs is often non-existent or only partially described and implemented, because operational activities within a daily routine often are the most time-consuming and SMEs find it hard to craft strategic visions for the future. Although it is assumed that science-intensive SMEs, which are more open to innovation, follow a more explicit innovation strategy, it appears that the innovation process even in these SMEs is limited by financial difficulties and development risks [4].

The article is divided in the three main sections. The first one is devoted to the description of the SMEs *status quo* in Poland and the author's recommendation of their innovation activities' improvement by strategic foresight research. The second section deals with the new approaches of foresight research in SMEs. The aim of the third section is to present the possible implementation of organizational foresight in a small company representing the doors and windows industry.

1. Foresight in SME companies

In advanced economies SMEs are regarded as “locomotives” of innovation often developing disruptive technologies, creating fundamentally new products and services, and providing high-tech employment opportunities [5]. There are over 1.8 million enterprises operating in Poland (data for 2015) defined as active. SMEs account for 99.8 % of these entities. Data for the last 18 years show that the number of active enterprises is steadily increasing (from 1.58 million in 1997 to over 1.8 million in 2015) [6, 23]. In comparison with other countries of the European Union, Poland occupies the sixth position regarding the number of enterprises. In total, business activity in the European Union is run by 22 million enterprises, most in Italy (two and a half times more than in Poland), France, Spain, and Germany. A similar number of companies as in Poland operate in the UK. The smallest number of enterprises for 1000 residents may be observed in Romania (21), Germany (27), and the UK (27). However, the sheer number of companies, while important, is not enough when it comes to assessing the entrepreneurial potential of the country in the context of the number of companies. A better indicator is the juxtaposition of the number of companies to the population in a given country. In this ranking, with the result of 40 enterprises for 1000 residents, Poland occupies 19th position in the European Union. The highest values of this indicator may be found in The Czech Republic (96), Portugal

(75), Slovakia (74), Sweden (70), and Greece (66) [6]. Despite increasing number of the active SMEs, there is a fairly strong deterioration in innovation activities by SMEs, while weak performance in patents and other innovation indicators persists. Sources of financing for the activities of R&D firms remain limited. While access to bank loans is easier in Poland than in many other EU countries, the covering of alternative financing is limited, particularly among SMEs. The value added that is generated by Polish SMEs is significantly lower, which is the evidence of their lower productivity and a concentration of Polish microenterprises in low value-added sectors [21, 22]. The performance of Polish SMEs in the knowledge-intensive service sector is also below the EU average [7]. Poland lacks national champions and ranks poorly in international innovation rankings (Fig.1).

Among 2500 companies, which were leaders in terms of R&D investment (according to The 2015 EU Industrial R&D Investment Scoreboard), there were no Polish enterprises [23]. In 2016, Poland was ranked 23rd in the EU *European Innovation Scoreboard*. It has poor results in many dimensions of innovativeness, including the innovative activity of enterprises (particularly SMEs) and cooperation in this area with other entities, international patent activity, and commercialisation of inventions on an international scale [23].

According to the author of this article, the innovation activities in Polish SMEs companies could be enhanced by strategic foresight research. Its basic assumptions are presented in Figure 2.

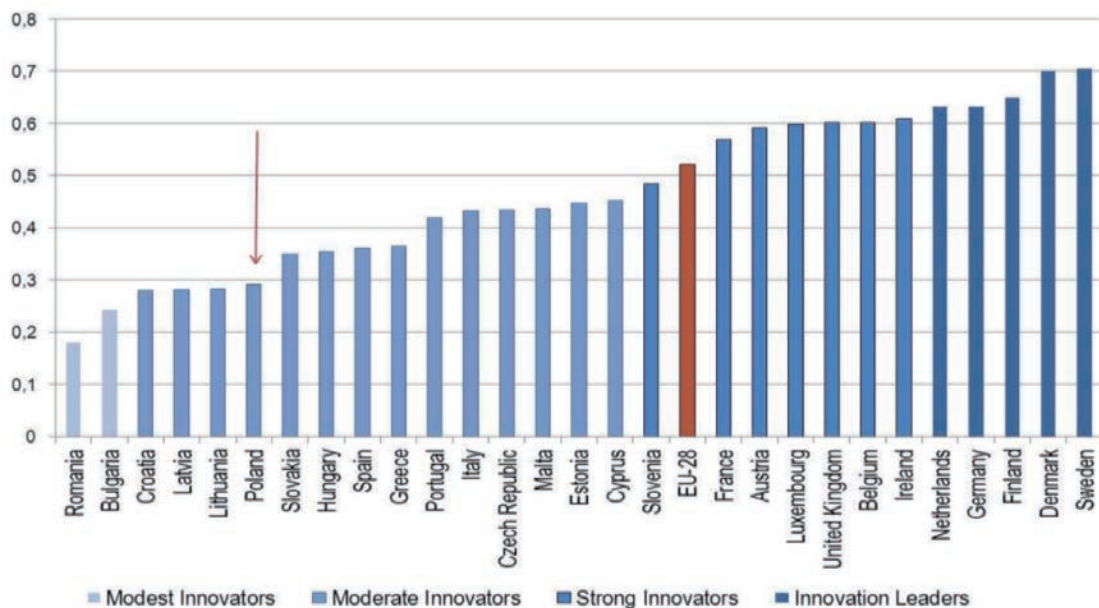


Fig. 1. Innovativeness in Poland against the background of other EU Member States [23]

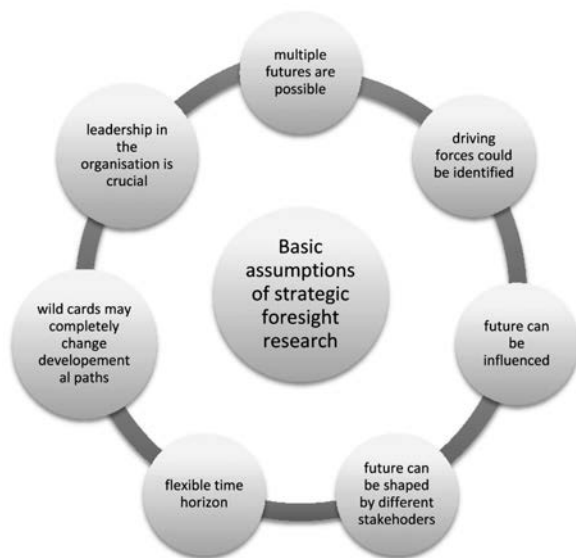


Fig. 2. The basic assumptions of strategic foresight process

The author of the article further elaborated the basic assumptions of strategic foresight posited by Rohrbeck et al. [8] and would like to stress that the idea of foresight in the company is grounded on the premises that (1) alternative futures are possible (i.e. that future developments are uncertain and unpredictable), (2) driving forces can be identified and studied, (3) the future can be influenced, (4) the future can be shaped by different stakeholders, (5) the foresight horizon depends on the dynamics of the phenomena in a given field of analysis, (6) wild cards (high impact low probability events might completely change developmental paths, and (7) leadership in the organization is crucial because there is a documented link between individual motivation

and beliefs and strategic foresight capacity [9]. All of these assumptions should create a background for innovations within companies. Although the innovation processes within SMEs are often absent or only partially implemented because of operational activities that seem to be the most time-consuming, in the existing published works, one may identify articles in which authors emphasize the links between foresight and innovation. As noted by Visnievsky et al. [5], strategic foresight is able to serve as an important tool for more efficient innovation in the short and long term. Borodako describes the relationship between the foresight process in the tourism business and innovations being created in that sector [24, 25]. Jissink et al. [10] find a positive impact of strategic foresight on innovation performance. Another example is Paliokaitè and Pacesa [11] who find a positive influence of corporate foresight on the level of a company's ambidexterity, which is a balance between exploring new opportunities while simultaneously exploiting existing competencies.

2. New approaches to foresight research in SMEs

The newest approaches to foresight implementation have been described by Savioz and Blum [12], Bidaurratzaga and Dell [13], Markman et al. [14], Ejdys [15], and Visniewsky and Egorowa [5]. The concepts posited by the above-mentioned authors refer to different foresight research practices.

Savioz and Blum [12] offer the idea of Opportunity Landscape which aims at the identification and prediction of future trends and changes in the scientific environment by means of their ongoing and systematic observation and with the help of the necessary technological information for decision-making (Figure 3).

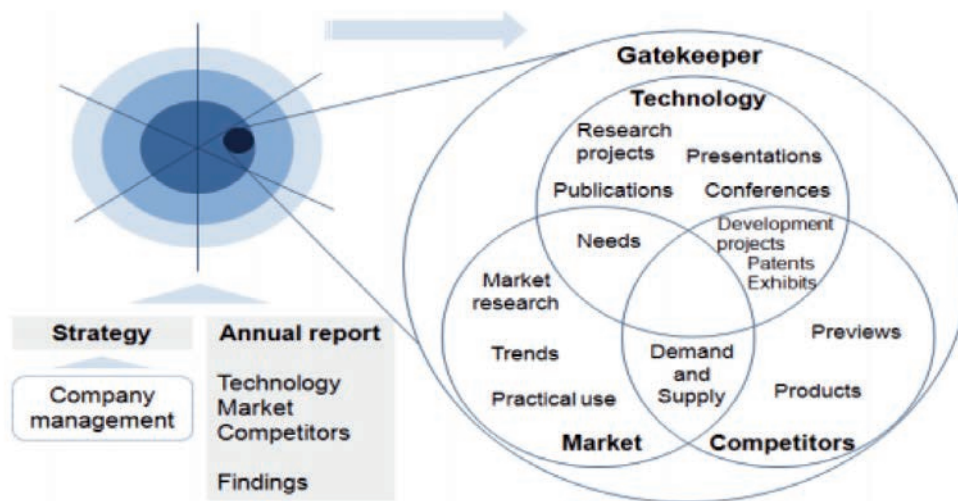


Fig. 3. Interaction between Opportunity Landscape and business strategy [12]

The authors of the article provide a description of a case study of its implementation based on a Swiss SME company operating on the market of dental implantology. The implementation of Opportunity Landscape contributed to the development of an internal knowledge base and enhanced the whole process of knowledge management in the company.

Bidaurratzaga and Dell [13] posit a tailor-made foresight approach for SMEs, namely, the *future garage process*. The tool is based on an analysis of the literature, expert pools, and case studies. It contains the elements of open innovation, bringing weak signals, leading indicators, and long-term influencers into the innovation strategies of SMEs, helping to foster disruptive innovation.

Markmann et al. [14] offer a collaborative foresight approach that enables the identification and managing of future changes with the help of an innovative web-based foresight platform – Competitiveness Monitor [14]. The platform supports cooperative risk management and joint foresight studies by SMEs, scientific research institutes and universities, and has four interlinked scopes of application that aim at creating conditions for the cogeneration, discussion, evaluation, and development of advanced knowledge.

Apart from the approaches mentioned above, in the existing published works, one may find recommendations for the usage of foresight methods as well as the basic elements for a foresight model for SMEs.

Vishnevskiy & Egorova [5], based on costs and results analyses, recommend for foresight research in SMEs low cost and highly informative methods, such as literature review, interviews brainstorming, stakeholder analysis, and scenario workshop.

Whereas Ejdays [15] provides a basic foresight model for SMEs consisting of such elements as the goal of foresight research, an approach to foresight uncertainty, the scope of foresight, foresight focus, involvement, the communication process, responsibility, change initiation, the continuity of the process, the level of process formalisation, and the final results of the foresight process.

In the next section of the article, an original approach to foresight implementation in a small company is presented.

3. Foresight in a small company – a case study

The aim of this section is to present the possible implementation of organizational foresight in a small company representing the doors and windows industry. The research has been based on the basic assumptions of foresight research posited by the author of this article and the theoretical concept embracing a three

dimensional model by Hiltunen [2] assuming that the foresight process in a company is manifested through social anticipation of the future, innovativeness, and the communication of the future (Figure 4).

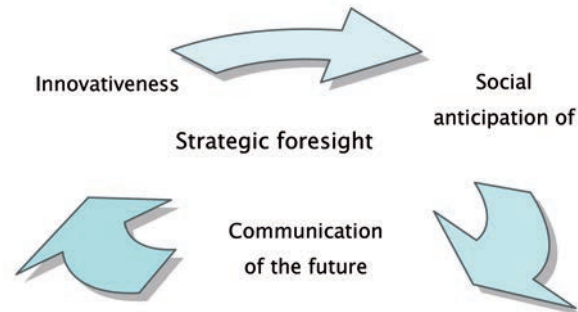


Fig. 4. The main elements of strategic foresight in the enterprise [2]

The research process aiming at implementing organizational innovation within the company consisted of the following five stages: the assessment of the foresight maturity level of the enterprise through an in depth interview with the presidents of the company [16], business coaching workshops with employees of the company [17], a STEEPVL analysis [18], scenario analysis [19], future box technique [20], and strategy formulation (Figure 5). The selection of methods corresponds with the three elements of strategic foresight in the enterprise [2] and is a result of author's practical experience in implementing foresight methods into the strategy formulation of SME companies. According to the authors of the above-mentioned methods, all of them turned out to be effective in the foresight activities within the company.

The research process was carried out within the project *R+D platform – an innovative model of cooperation among science, business, and administration in the Podlaskie region* coordinated by the Bialystok Foundation for Staff Training in which the author of this article took part as grant-holder. Some of the results of the research have been presented in the paper by Kononiuk and Glinska [20]. The authors of the article aimed at presenting the possibilities of the inclusion foresight research into their activities with the purpose of increasing their strategic capacity and agility on this still promising but highly competitive market of the doors and windows industry. In this paper, the main focus is on strategy formulation.

The results of the research process presented above gained through the involvement of many players involved within the doors and windows industry enabled the author of the article to prepare an organizational strategy of the company's development based on three main pillars posited by Hiltunen (Figure 6).

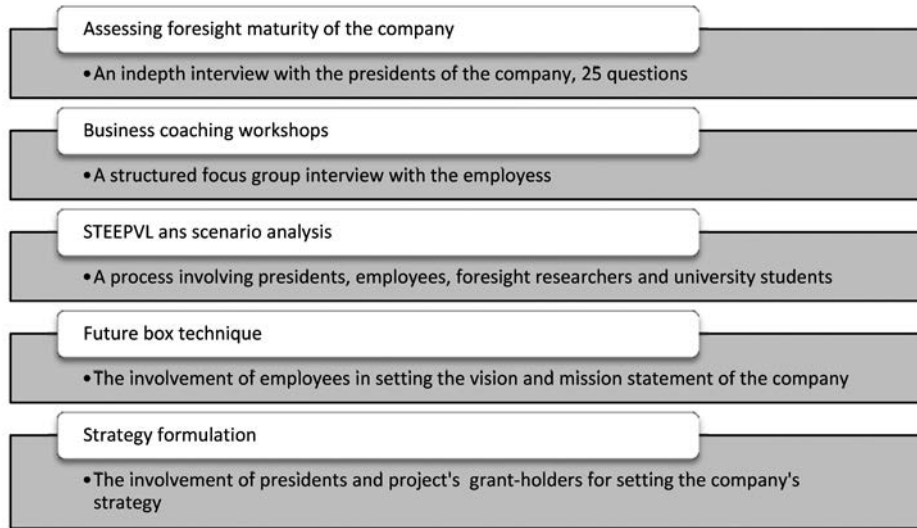


Fig. 5. The methodology for foresight research in the small company

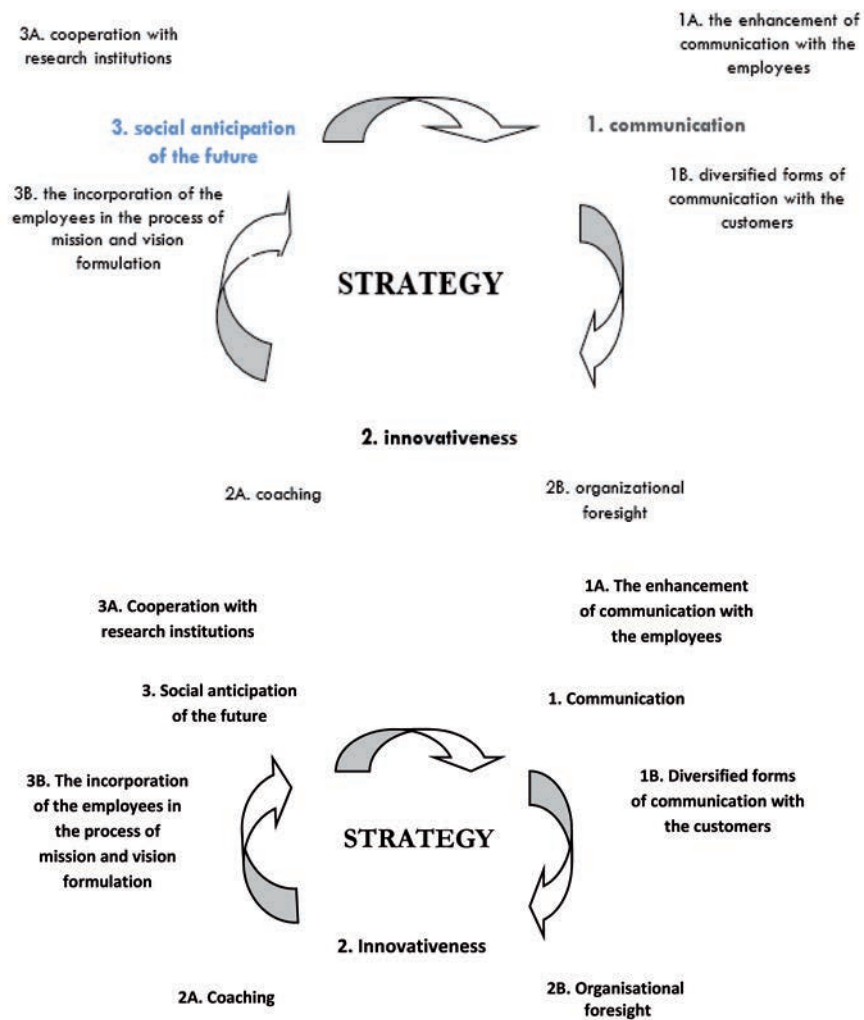


Fig. 6. The main pillars of the strategy based on corporate foresight model by Hiltunen

Table 1. The exemplary recommendations for communication sphere

Scope	Strategic aim	Activities and estimated timeline for their implementation
communication	The enhancement of communication with the employees	<ol style="list-style-type: none"> 1. Appointment of a person as a production manager (the employees suggested that the best person for this post would be someone from “the outside of the organization”). (B) 2. Appointment of a person responsible for the sales department and for the organization of the work of doors and windows installers. (B) 3. Meetings with the presidents of the company concerning ongoing activities and the future development of a company. (A) 4. A social package embracing non-wage benefits. (A)
	The enhancement of communication with the customers	<ol style="list-style-type: none"> 1. Trainings for doors and windows sellers in the scope of the individualized customer service representing different segments of the market, taking into account individual needs and expectations. (B) 2. Preparation of information in the form of brochures (containing the information about products and parameters description taking into account different options, such as old building, new building, with good thermal insulation or none, single-family building, multifamily building) for individual and institutional customers. (A) 3. The intensification of works related to the company’s promotion on Facebook. (A) 4. Reconstruction of the company’s website. (A) 5. Development of full cooperation relationship with students of architecture, who could offer advice as a part of their internship. (C) 6. Introduction of new devices for the customers. (A) 7. Participation in charitable activities (B) 8. Opening of a sales office in Sweden (B)

For each dimension, two strategic goals were identified. The author developed thirty-eight specific recommendations for the achievement of goals and three periods for their realization, namely A – the activity is permanent, B – the estimated timeline for the activity is two years, and C – the estimated timeline for the activity is five years. The exemplary recommendations for communication sphere are presented in Table 1.

Apart from thirty-eight recommendations, analysis of the sectional reports enabled the author to indicate specific guidelines of twenty-four strategic interventions directed to the customers of the company. The synergy of academics and industry specialists in one foresight exercise enabled the academics to get acquainted with the possibilities and limitations of foresight research in a small enterprise and offered an ‘outside of the box’ perspective for the presidents and the employees of the company on its activity and the trends shaping its development.

Conclusions

Although foresight research seems to be a white spot in SMEs companies, in the existing published works, one may identify possible approaches to implementing strategic foresight into the process of strategy formulation within the enterprise. According to the author of this article, a promising approach is the idea of Opportunity Landscape aiming at the

identification and prediction of future trends by means of their ongoing observation.

The theoretical contribution of the paper to the fields of Managements consists in the identification of assumptions for foresight research in the company as well as elaborating a simple but very informative model of its application. The practical implications of the methodological considerations are presented in the paper in the form of a case study in a small company representing the doors and windows industry. In the author’s opinion, the elaborated methodology comprising the following five stages turned out to be a useful framework for strategic foresight implementation in a small company: (1) the assessment of the foresight maturity level, (2) business coaching workshops with the employees of the company, (3) a STEEPVL analysis and scenario analysis, (4) future box technique, and (5) a strategy formulation. The foresight research strategy of the company’s development is an effect of cooperation of all stakeholders involved in the process: employees, presidents of the company, students of the Management Faculty of Bialystok University of Technology, and researchers who acted as the project’s grantholders.

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