

EFFECTS OF USING STRATEGIC PLANNING AS A MANAGERIAL TOOL: A CASE OF INDUSTRIAL COMPANIES

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Abstract: The paper deals with the issue of managerial tools focusing on strategic planning. To examine the issue of strategic planning, industrial companies were chosen. The main aim of the paper was to find out the level of using strategic planning in industrial companies and to define the barriers that hinder the use of this managerial tool to a greater extent. The research was based on the hypotheses defined and with using statistical tests, individual variables related to the usage of strategic planning were examined. To examine these variables, the Chi-square test of independence and the method of proportioning the phenomenon in the population were used to verify the use of strategic planning. Based on statistical verification of the mentioned hypotheses, it was found out that the use of strategic planning in industrial enterprises does not even reach the level of 25%. Using the Chi-square test, the dependences between the lack of human and financial resources and the use of strategic planning were tested. In both cases, the p value was lower than 0.05 which means that there is a statistically significant relationship between these factors and there is a connection between them. In the paper, The research was compared with other studies carried out so far, emphasizing the importance of using strategic planning in the business management. The result of The research points out the relatively low use of strategic planning in the environment of industrial companies and defines the barriers that cause this low usage.

Key words: strategic planning, performance, management, industrial enterprises

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Introduction

In today's ever-changing market environment, businesses need to be flexible and respond effectively to the challenges brought by these changes (Pavelková et al., 2018; Kramoliš and Kotásková; 2018). The enterprise performance is determined by rising financial entitlements, which are (to some extent) the result of globalization, interdependence and internationalization (Onuferová, Čabinová, 2018; Kovacova et al., 2019). The competition in export markets continues to become more and more intense due to the changes in economic, social, political

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and technological conditions (Chankoson, 2019, Nathan et al., 2019). Searching for paths to improve the performance of organizations is a major concern among researchers and managers (Nunes et al., 2018). The issue of measuring and evaluating the enterprise performance and efficiency remains an open question, as identification and management of the financial health still represent a prerequisite for improving strategic management decision-making processes (Čabinová, Onuferová, 2019). Today's business world is a world of competition for new technologies, new virtual spaces and the most talented and creative people. In the case of technologies or e-business models, business processes very often take the form of project implementation (Pachura, 2019, Gorgenyi-Hegybes and Fekete-Farkas, 2019). A contemporary client is a customer based on the Internet and actively working online, who is socially involved in a new digital reality, which is why his/her requirements are growing (Wereda and Woźniak, 2019). Modern business entities operating under conditions of high competition and feeling the consequences of globalization processes are paying more and more attention to increasing the attractiveness of the wares they offer and selecting the most optimal business model (Kuś and Pypłacz, 2019). Innovation is the core competitive advantage, and it is vitally essential for organizations to stay competitive in a dynamic and hostile environment, however, a concerted link between the employee attitudes and innovation types is under-researched (Bulut et al., 2019; Kiseľáková et al. 2019; Świadek, et al., 2019). While the consecutive metamorphoses in the world economy changes the paradigm of doing business, the sources of success of almost every type of business transfer from tangible to intangible assets, and the information and its value becomes more and more significant (Ključnikov et al., 2019). Human capital holds great importance in administrative and economic environment as it has a significant impact on organizations and institutions of all kinds. Intellectual capital has emerged in the world of economy and trade in the last quarter of the twentieth century. It represents an elite group of employees, who have knowledge, organizational abilities, and can produce new ideas or develop old ideas to seize opportunities (Haque and Oino, 2019; Mačerinskienė and Survilaitė, 2019; Zygmunt, 2019). The effective human resource management has an impact on the quality of public services, so it is important to focus more on motivation of professionally qualified and stable workforce (Mura and Vlacseková, 2018). In contrast with management innovation, organizational innovation is naturally related with a narrower array of innovations around source allocation, organizational structure and human resource policies (Rajiani and Ismail, 2019). An important role in this process is performed by information and communication technologies which enable the current sharing of information and issues (Štefko et al., 2016). Enterprises will soon realize that using only financial indicators will not help them survive among stronger competition, and that such a strategy is inappropriate for future-oriented enterprises, too. As a result of failing to innovate, the enterprise loses its ability to compete because it insufficiently invests in non-material areas of business. Such areas include, in particular, product and process innovation, investment in employees' skills, motivation and customer satisfaction. Investing in

new products, new techniques, and practices worsens the company's short-term financial results. Moreover, investments in human capital and employee training negatively impact short-term financial results. However, this does not mean that the enterprise will get into trouble because of that. In the long run, this investment will bring profits and increase the value of the business - which is the main objective of the business owners after all. These changes are also in the industrial production area that was chosen as the examined sector in The research.

This paper focused on the research of strategic planning tool in enterprises operating in industrial production. The concept of intelligent industry is a great challenge for entrepreneurship in different areas of its business. It is a huge challenge to determine how to remain competitive in the market. Nowadays, success depends on the speed of putting new knowledge and technology into action (Grenčíková et al., 2019). Industrial production is closely linked to the sustainable use of resources. Analyses of the impact of natural resources on economic growth have been crucial to building an analytical framework for sustainable development in resource-rich developing countries (Hassan et al., 2019; Stverkova and Pohludka, 2019; Stverkova, Pohludka, Kurowska-Pysz, & Szczepańska-Woszczyzna, 2018). Using strategic planning is important for the competitiveness of industrial enterprises. The speed of changes, determining business environment, is increasing rapidly with the emerging Fourth Industrial Revolution. If organisations aspire to maintain competitiveness, they will need to keep pace with the organisations that react quickly to such changes (Stacho et al., 2019).

Literature review

The business organizations need to ensure their knowledge programs and knowledge strategy, which are consistent with a corporate aim, sources, culture, and employees' skill (Fitri et al, 2019). The strategy rests on the premise that the firm is thus able to serve its narrow strategic target more effectively or efficiently than competitors who are competing (Sikora & Baranowska-Prokop, 2018). Strategic planning is a process involving the research of market conditions, customer's needs and wishes, identifying strengths and weaknesses, specifying social, political and legislative conditions for entrepreneurship and determining the resources disponibility that can represent an opportunity or a threat for an enterprise (Anwar & Hasnu, 2016; Goyal, Sergi & Kapoor, 2014). Strategic planning is a comprehensive process for determining what a business should become and how it can best achieve that goal. It appraises the full potential of a business and explicitly links the business's objectives to the actions and resources required to achieve them (Bernardo et al., 2017; Chatzoglou et al., 2017). Strategic planning offers a systematic process to ask and answer the most critical questions confronting a management team - especially large, irrevocable resource commitment decisions (Wibbens, 2019; Danneels, 2016). The main outcome of the strategic planning process is a strategic development plan, being defined as a plan that identifies critical priorities and outcomes to be achieved by the over a longer

term (Wolf & Floyd, 2013). Strategic planning is a process of defining a strategy or a process of allocating enterprise's resources for implementing the strategy (Efrat & Shoham, 2013).

Long and drawn out strategic planning processes are unacceptable. Today's environment demands speed, rapid decision-making, adaptive structures and nimble behaviors in order to seize opportunities and mitigate threats. Budgets, staffing and overall resources are dwindling. Time is limited. Doing more with less is an imperative. A modern and viable strategic planning system must be responsive to these conditions and reflect rapid formulation and execution (Lynne Carbone & Associates, 2019). Figure 1 shows a process of strategic planning.



Figure 1 Process of strategic planning.

Source: Lynne Carbone & Associates, Inc. (2019)

Strategic planning as a modern managerial tool for managing and measuring the performance of an enterprise has become the subject of many scientific studies. The issue of strategic planning was dealt with in the research of authors Rigby and Bilodeau (2014), who claim that 65% of enterprises operating in the Western Europe use strategic planning. Every year, Bain & Company conduct research focused on using managerial tools including strategic planning. In their current research, they state that already 55% of businesses use strategic planning. Gartner company (2018) inform in their research that more than 58% of middle and large enterprises use the tool of strategic planning. In the Slovak business environment, the issue of strategic management is dealt with by authors Lesáková et al, 2017. In

their research, they especially analyse the concept of Balanced Scorecard. This method belongs also to popular managerial tools nowadays and can be considered as a tool related to strategic planning. The research they have carried out in the Czech and Slovak enterprises is closest to the findings. The authors mention the use of this method on only 9.15% of respondents which is probably the most comparable with the research.

Bain and Company (2018) conducted a research focused on using managerial tools with the result that 55% of enterprises use strategic planning. The research was carried out on a sample of 1300 enterprises operating in various sectors and of a different size. Figure 2 presents 10 mostly used management tools.

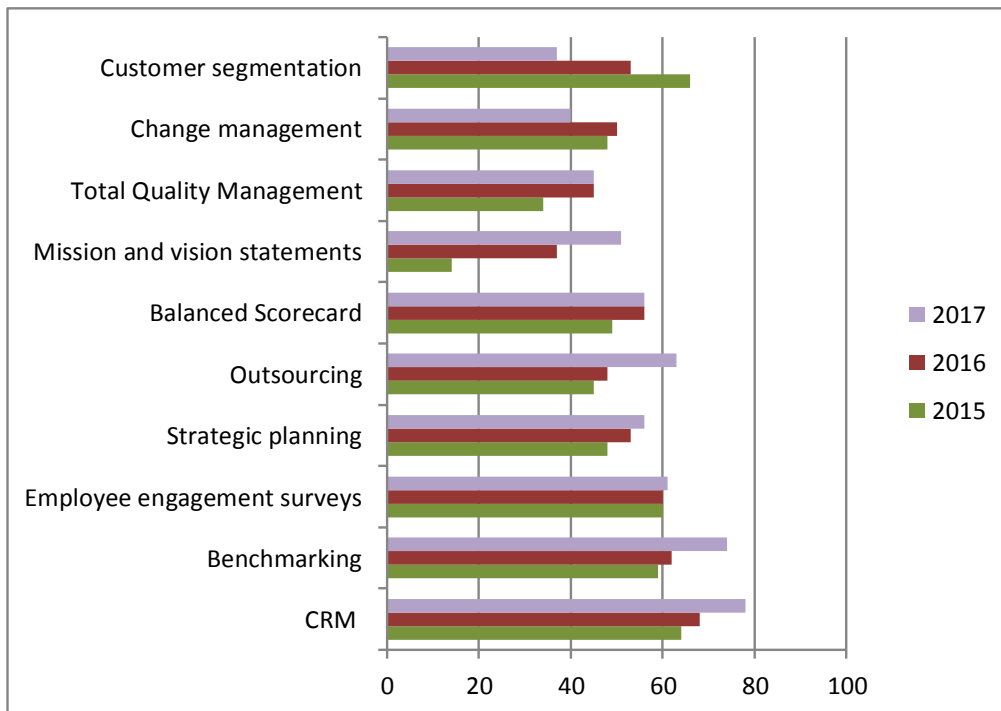


Figure 2 The most used management tools

Source: Authors elaboration based on Bain and Company (2018)

There are many benefits that go along with strategic planning. The key to successful strategic planning is to build in measures and implementation steps that allow you to engage your staff and monitor the results at regular intervals (Envisio, 2019).

The research focused on strategic planning tool was based on the following hypotheses:

H1: It is assumed that the tool of strategic planning is used by more than 25% of industrial enterprises.

H2: It is assumed that there is a statistically significant relationship between the lack of financial resources and the use of the strategic planning tool.

H3: It is assumed that there is a statistically significant relationship between the lack of personal resources and the use of the strategic planning tool.

These hypotheses were subsequently statistically verified and the result is described in the next chapters of the paper.

Data and methodology

The research focused on studying the use of strategic planning tool in industrial enterprises. The research aim was to determine the extent of using this tool in industrial enterprises and identify the barriers and connections that influence its usage. The mentioned research goal was determined in relation to the hypotheses defined and statistically verified in the research. To achieve the research aim, partial goals were defined and used to prove statistically significant relationship between the lack of human and financial resources and their effects on using the strategic planning tool. These dependences were verified by using statistical tests and calculations.

A questionnaire method was chosen as the main research method. The questionnaire was conducted in an online form using the google form application belonging to the most used application to address respondents. The questionnaire consisted of three basic parts. The first part included basic data about enterprises such as their size, the ownership of enterprises, their legal forms and geographic area of their operation. The second part of the questionnaire was focused on the area of strategic management and strategy creation. The last part was directed more to the issue of the strategic planning tool and its use in industrial companies. The questionnaire involved questions with a choice of answers, or a choice of several answers from offered possibilities and the answers were formed also with a Likert scale. The research used a five-point Likert scale where the respondents could choose the answers from completely disagree to completely agree. The Likert scale contained also an option where the respondents chose the answer I do not know, i.e. the answers they could not respond to.

The research on the issue of strategic planning was aimed at industrial enterprises and it was conducted in enterprises operating in this area. The selection of the respondents in the research was done by a theory of probability enabling to find random events according to probabilities of some other events. The probability theory allows to generalize the acquired results to the whole selected sample. The acquired results were further analyzed, i. e. a census was taken. The respondents were selected by a method of a random selection of enterprises where each enterprise has the same probability to be selected. The enterprises of random selection must be defined in the way so that each enterprise has the same chance to

be included into the selected sample. The selection of tourism enterprises was based on the OKEČ and SK NACE enterprise classification. For the purposes of the research, the database of Index of Entrepreneur that includes the database of industrial enterprises was used.

The questionnaire research was carried out in the period from January to April 2019.

611 industrial enterprises were addressed from the mentioned database. 62 questionnaires returned from all questionnaires sent, i.e. the level of return was 10.14%. The return of questionnaire at the level of 10% is relatively low but it is an usual phenomenon by a questionnaire method. The reasons behind this low return could be seen in the unwillingness of enterprises to respond the questionnaire, the lack of time, or failure to identify or assign a responsible person to fill in the questionnaire. Another factor that can cause the low return of questionnaires is also the concern of companies about the disclosure of information or presentation of company data. But this problem is solved in this case since the questionnaires were anonymous.

Table 1 Formulas for verifying hypotheses and questions

Indicator	Formula	Explanatory note
Pearson's Chi-square Test of Independence	$\chi^2 = \sum \frac{(f_e - f_t)^2}{f_t}$	χ^2 – the Chi-square value subsequently compared to a table value based on the selected error probability, f_e – the empirical frequency of observed variables, f_t – the theoretical frequency of observed variables.
Method of proportion of a given phenomenon in population	$p = \hat{p} \pm z_\alpha * \sqrt{\frac{\hat{p} * \hat{q}}{n}}$	\hat{p} – method of proportion of given phenomenon in the population \hat{q} – proportion of the opposite phenomenon in the selected sample n – size of sample z_α – confidence level

Source: Marcheová, Tirpáková, Stehlíková, 2011

Results of research

The research was focused on the issue of strategic planning in industrial enterprises. The first hypothesis was based on the assumption that industrial enterprises use strategic planning and was formulated as follows:

H1: It is assumed that the tool of strategic planning is used by more than 25% of industrial enterprises.

The formulated hypothesis focused on using the tool of strategic planning was verified using the statistical method of proportion of a given phenomena in population. The results are presented in Table 2.

Using the method of the proportion of phenomenon in population, the values were from 14,91% to 36.69%. The values found out from this calculation were calculated from three variables. The first variable is a percentage of industrial enterprises that use strategic planning. The second variable is the percentage of enterprises that do not use strategic planning at all. The third variable is the total number of the enterprises in the research. The coefficient of the level of test reliability is at the level of 95% and it is determined by the value of 1,96. The result value do not reach the minimum at the level higher than 25% and so we can state that the hypothesis was not verified and we do not accept the given hypothesis.

Table 2 - Used formulas with results

Indicator	Formula	Explanatory note
Method of proportion of a given phenomenon in population	$\hat{p} = 0.2580$ $\hat{q} = 0.7420$	$p = 0.2580 \pm 1.96 * \sqrt{\frac{0.2580 * 0.7420}{62}}$ $p = 0.2580 \mp 0.05557$ $0.1491 \leq p \leq 0.3669$

Source: Authors' elaboration

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The second hypothesis was focused on the barriers that hinder the use of strategic planning tool in industrial enterprises.

It is assumed that there is a statistically significant relationship between the lack of financial resources and the use of the strategic planning tool. Table 3 shows the result values of testing.

Table 3 The results of testing hypothesis

Pearson's Chi-square	Test of Independence
Calculated value	p = 0.0407
Error probability	α = 5% (0.05)
Degree of freedom	DF = 1.00
Critical value	x ² = 0,01

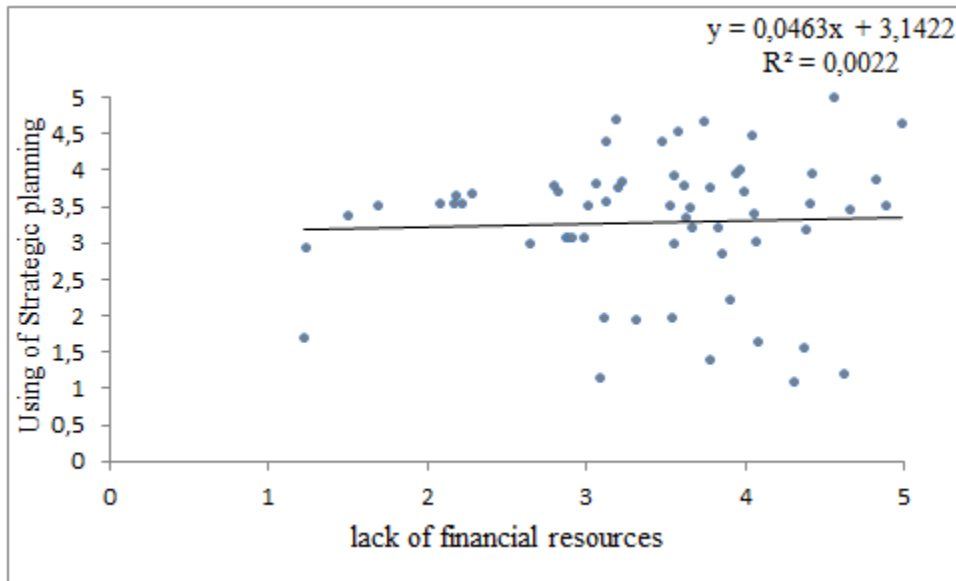


Figure 3 Dependences between the lack of financial resources and the use of strategic planning

Source: Authors' elaboration

The calculated value is lower than the value p determined as 0.05. It follows from the given calculation that there is a statistically significant relationship between the lack of financial resources and using the tool of strategic planning. The given calculation is graphically shown in Figure 3 presenting the dependence between the lack of financial resources and using strategic planning tool and confirming that there is dependence between individual factors.

The calculated value p is lower than 0.05 which means that there is a statistically significant relationship between the lack of financial resources and using the tool of strategic planning. This hypothesis was accepted.

Another hypothesis focused on the barriers of using the tool of strategic planning was aimed at the area of human resources. For the needs of this research, the hypothesis was formulated in the following way:

H3: It is assumed that there is a statistically significant relationship between the lack of human resources and the use of the strategic planning tool. Table 4 contains the results of testing.

Table 4 The results of testing hypothesis. Source: own processing

Pearson's Chi-square Test of Independence	
Calculated value	$p = 0.04789$
Error probability	$\alpha = 5\% (0.05)$
Degree of freedom	$DF = 1.00$
Critical value	$\chi^2 = 0,01$

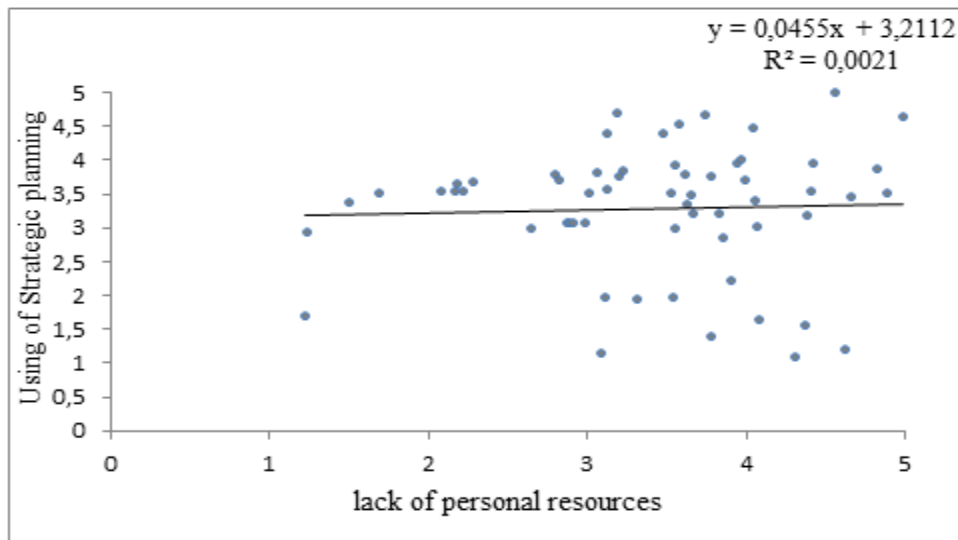


Figure 4 Dependences between the lack of human resources and using strategic planning

Source: Authors' elaboration

Once again, the calculated p value is lower than 0.05. We can state that there is a statistically significant relationship between the lack of human resources and the use of strategic planning. The given calculation is presented in Figure 4 that shows the dependence between the lack of human resources and the use of strategic planning. Based on statistical verification of the hypothesis we can confirm that there is a dependence between individual factors.

Using the Chi-square test of independence, the p value lower than 0.05 was recorded and so we can state that there is a statistically significant relationship between the lack of human resources and the use of strategic planning. The formulated hypothesis was accepted.

Discussion

The issue of strategic planning and strategic management in general belongs to the attention of various different studies and it is a subject of research of many experts. In this research, we found out that the use of strategic planning in industrial enterprises is less than 25%. This result can be compared with a similar research (Lesáková and Dubovcová, 2016) in which the authors also focused on a similar management tool, i. e. Balanced Scorecard and their result reached the level of 8,45% in industrial enterprises in Slovakia. The research was also aimed at identifying the reasons for a relatively low use of strategic planning. Research by Gartner Group (2018) presents financial and personnel factors as the main reasons of not using management tools. The research therefore sought to verify the connections between these factors and the use of strategic planning. Statistical

verification revealed that there is a statistically significant relationship between the lack of financial resources and the use of strategic planning as the calculated value reached the level of $p = 0.0407$, which is lower than the probability of error at the level of $p = 0.05$. Similar examination was also undertaken by statistical tests of dependencies related to the shortage of labour force and we found out that there is a statistically significant relationship between the lack of human resources and the use of the strategic planning tool. This fact can be determined from the calculated value $p = 0.04789$ which is also lower than the probability of error at the level of $p = 0.05$. The research thus confirms the relatively low use of strategic planning in industrial enterprises and confirms the reasons responsible for this.

Measuring and evaluating performance is important for all types of enterprises. It is just by identifying and evaluating its performance that a company can determine its situation and take steps to improve it. The research found out a relatively low use of strategic planning. It is this finding that prompted us to identify and define the barriers responsible for this situation. Based on the data obtained, we can define these barriers as a lack of human and financial resources. The Cima company (2018) mentions human and financial resources as possible barriers of using strategic planning. This has been confirmed by the research in both cases. It means that this factor has a statistically significant impact on the use of strategic planning.

Based on the results of the research, we can conclude that using the tool of strategic planning in the countries of Western Europe is at a higher level than in Slovakia according to the studies conducted so far (Cipd, 2016; Bain & Company, 2018). In the region, the Czech Republic has a greater use of strategic planning tool where the research was carried out by authors (Rylková and Bernatík, 2014). One of the barriers to the use of this tool is the lack of human and financial resources.

Strategic planning is a process in which the analysis of the overall situation and future possibilities leads to the formulation of intentions, means and objectives of a company which represents the main role of top management. The research has confirmed the relatively low usage of this tool and identified the barriers that hinder its use.

Conclusion

This research was focused on the issue of using the tool of strategic management in industrial enterprises. From the total number of addressed respondents, 10% returned back. We consider such a selection sample relevant within questionnaire research. Based on the results obtained, we can conclude that the research aim was met and we gained data necessary to the evaluation of the whole process.

The research has some limits. The first limit is the size of the research sample that was at the level of 10% from a total number of the addressed respondents. Greater return offers a more complex and real view on the issue. But the return of questionnaires is on a solid level and is comparable with other similar studies. Another limit is the research focus on industrial enterprises. The situation with strategic planning could be different in other sectors.

The mentioned limits motivate us to carry out further research where we will continue to study the issue of strategic management and the management of enterprises' performance.

In this research focused on strategic planning, we would propose the following recommendations to increase the interest in this management tool and thus contribute to its greater use:

- Creating a database of enterprises that use strategic planning and subsequent updating of this database,
- Co-operation of enterprises with external and consulting companies focused on current managerial tool,
- Expanding research aimed at management tools and the presentation of its results to the professional and business spheres,
- Recommendations for a company to find a qualified workforce for leadership positions that is well oriented in current managerial trends.

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EFEKTY WYKORZYSTANIA PLANOWANIA STRATEGICZNEGO JAKO NARZĘDZIA ZARZĄDZAJĄCEGO: PRZYPADEK PRZEDSIĘBIORSTW PRZEMYSŁOWYCH

Streszczenie: Artykuł dotyczy kwestii narzędzi menedżerskich koncentrujących się na planowaniu strategicznym. Aby zbadać kwestię planowania strategicznego, wybrano firmy przemysłowe. Głównym celem artykułu było ustalenie poziomu wykorzystania planowania strategicznego w przedsiębiorstwach przemysłowych i zdefiniowanie barier, które w większym stopniu utrudniają korzystanie z tego narzędzia zarządzania. Badanie oparto na zdefiniowanych hipotezach, a przy użyciu testów statystycznych zbadano poszczególne zmienne związane z wykorzystaniem planowania strategicznego. Aby zbadać te zmienne, zastosowano test niezależności Chi-square i metodę proporcjonalności zjawiska w populacji, aby zweryfikować wykorzystanie planowania strategicznego. Na podstawie statystycznej weryfikacji wspomnianych hipotez stwierdzono, że zastosowanie planowania strategicznego w przedsiębiorstwach przemysłowych nawet nie osiąga poziomu 25%. Za pomocą testu Chi-kwadrat przetestowano zależności między brakiem zasobów ludzkich i finansowych a wykorzystaniem planowania strategicznego. W obu przypadkach wartość p była mniejsza niż 0,05, co oznacza, że istnieje statystycznie istotny związek między tymi czynnikami i istnieje związek między nimi. W artykule Badanie porównano z innymi dotychczas przeprowadzonymi badaniami, podkreślając znaczenie wykorzystania planowania strategicznego w zarządzaniu przedsiębiorstwem. Wynik badania wskazuje na stosunkowo niskie wykorzystanie planowania strategicznego w środowisku przedsiębiorstw przemysłowych i określa bariery, które powodują to niskie wykorzystanie.

Słowa kluczowe: planowanie strategiczne, wydajność, zarządzanie, przedsiębiorstwa przemysłowe

将战略规划用作管理工具的效果:以工业公司为例

摘要: 本文讨论了专注于战略计划的管理工具的问题。为了研究战略规划问题, 选择了工业公司。本文的主要目的是找出在工业公司中使用战略计划的水平, 并确定在更大程度上阻碍该管理工具使用的障碍。该研究基于已定义的假设, 并使用统计检验对与战略计划的使用相关的各个变量进行了检查。为了检验这些变量, 使用了卡方独立性检验和在人口中对现象进行比例分配的方法来验证战略规划的使用。在对上述假设进行统计验证的基础上, 发现工业企业使用战略计划甚至达不到25%的水平。使用卡方检验, 检验了人力和财力缺乏与战略计划的使用之间的依存关系。在这两种情况下, p 值均小于0.05, 这意味着这些因素之间存在统计上的显著关系, 并且它们之间存在关联。在本文中, 该研究与迄今为止进行的其他研究进行了比较, 强调了在企业管理中使用战略计划的重要性。研究结果指出, 在工业公司环境中战略计划的使用率相对较低, 并确定了导致战略计划使用率较低的障碍。

关键词: 战略规划, 绩效, 管理, 工业企业