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# Towards the improvement of university management

## 1. Introduction

The subject of strategic management at universities is the subject of numerous research works, not only theoretical, but also empirical (Ambos et all, 2008, pp. 1424-1447; Antonowicz, Machnikowska, 2020, p. 8; Bakoğlu, 2016, pp. 36-45; Bastalich, 2010, p. 845-857; Beer, Eisenstat, 2000, pp. 29-40).

When analyzing the process of strategic change of universities and gaining a competitive advantage, researchers focus on various, often very different aspects (Boer et all, 2017; Boyce, 2008; Brauer, Schmidt, 2008, pp. 649-660). For example, Rasmussen and Wright refer to a well-known view that it is necessary to strengthen the role of universities in shaping the knowledge-based economy (Brenes, Molina, 2008, pp. 590-598). Similar views are also presented by Mosey and all, Chapple and all or Ambos and all (Bridgman, 2007, pp. 478-490; Buckland, 2009, pp. 524-536). It is emphasized, inter alia, the necessity to commercialize scientific research (Bastalich, 2010, p. 845-857), the development of multidisciplinary institutes (Bushardt et all, 2011, p. 67; Bushardt et all, 2007, pp. 67-79; Capano, 2011, pp. 1622-1642; Carroll, Mui,

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2008) or the transfer of university technologies (Buckland, 2009, pp. 524-536). The reasons for the poor level of strategic management at public universities are seen, among others, in the very nature of universities, because as public institutions they are suspended between two very different worlds. On the one hand, they are obliged to fulfill the obligations of a public institution, but on the other hand, while operating on a competitive service market, they are forced to compete for students, employees or material resources (Čater, Pučko, 2003, p. 230). It is therefore emphasized that contemporary universities face enormous pressure resulting from, inter alia, the ways in which they are financed and the competition for values or resources. As Deem aptly points out, this context makes universities a place of intense political pressure on efficiency, accountability and reform (Bakoğlu, 2016, pp. 36-45). It is also observed that the reform program is coordinated by a complex set of regulations (Chapple et all, 2005, pp. 369-384), which severely limits the strategic choices of individual universities (Chen et all, 2008; Cobbold, Lawrie, 2001; Crossan, Berdrow, 2003, pp. 1087-1105). Considering the special role of modern universities in shaping the knowledge-based economy, proper university management and the best possible implementation of the tasks entrusted to it should be a priority for university authorities. The implementation of these difficult tasks seem to be possible only when the effective process of the strategic university management based on managerial knowledge is implemented.

As Suprapti and others aptly point out, a strategy for some organizations is a way to anticipate and overcome emerging problems. It is also indicated that it can improve the existing system in the organization for the future (Deem, 2007).

## 2. The necessity to use strategic management at universities

Over the past decades, many changes have been initiated across Europe to improve the way today's universities operate. Numerous reform programs assumed, inter alia, strengthening institutional autonomy of universities, institutional leadership or increasing competitiveness (Etzkowitz, 2015; Ferlie et all, 2008, pp. 325-348; Ferlie et all, 2009, pp. 1-19). In the light of the changes taking place in the socio-economic space of universities, as well as an attempt to reconcile the essence of universities with the expectations of stakeholders (Flaherty, Maki, 2007), it seems that traditional university management is not effective (Giles, 1991, pp. 75-91). It should also be pointed out that the current methods of university management are subject to more and more discussions, which results, among others, in more and more voices saying about the need

for changes (Gornitzka et all, 2018). In addition, the need to implement strategic management at universities also results from the concept of an entrepreneurial/quasi-market university/(Act 2.0 introduces this university model in Poland) and actions taken within the European Higher Education System, to which Polish universities also belong (Graham et all, 2006, pp. 13-24; Greckhamer, 2010, pp. 841-871; Grundy, 2012, p. 7).

Increased competition between universities made it necessary to think strategically. For this reason, it is indicated that goal-oriented strategic management is of key importance for the success of an institution such as a university. It is also important that these plans indicate how to act in the areas of education, research, employee and student mobility and internationalization (Giles, 1991, pp. 75-91). Strategic management is a holistic process consisting of numerous stages that must interact and function together. As Taylor and Machado aptly points out, these elements include, but are not necessarily limited to, strategic planning, institutional culture, leadership, institutional research, resource allocation, and financial and human resource management. In the case of universities, the management of scientific and research activities, as well as academic support services, internationalization and internal relations is additionally specified (Halim, 2007). Thus, strategic management is commitment, interdependence and balance between the specified components.

As it has been indicated in numerous research works, the mechanism of strategic changes in universities has been launched (Hinton, 2012; Ho et all, 2013, pp. 3-4; Holstein et all, 2016, pp. 61-91; Hrebiniak, 2005). It should be emphasized, however, that while the concepts of strategic management or strategy implementation are more and more commonly known, the course of the process of their implementation is not fully known (Kaplan, Norton, 1996, pp. 75-85). For example, Ferlie emphasizes that in most universities the strategy has been formalized systematically by more and more professional management (Leja, 2009, p. 89), however, in many cases it leads to a "quasi-strategy" (Hinton, 2012). It is also pointed out that in many cases the mechanism or content of organizational changes perceived as contrary to values or ideals. Porter, on the other hand, talks about the need to use a strategy that will generate differentiation, otherwise the strategy will remain only a motto (Lloyd-Reason et all, 2005, pp. 206-226).

In the light of the above, it should be pointed out that despite numerous research works in the field of strategic management in universities, there is still a research gap in the presented area. On the other hand, the very process of implementing the strategy at universities still needs to be improved. Therefore, there is a justified necessity and need to research the entity which is the university.

### 2.1. The necessity to use strategic management at universities in Poland

Detailed information on the state of strategic management in Polish universities is provided by numerous research works and analyses. However, the conclusions drawn from them are not optimistic. Many universities lack a formulated mission, vision and strategic goals, which is a significant barrier to the development of Polish universities. Therefore, it seems particularly important to use strategic management, which, through the implementation of the mission of the university, will allow to achieve a competitive advantage. The results of research on Polish universities show that both in public and private universities, the lack of knowledge and use of strategies in managing a university is common. For example, only a few respondents indicated the importance of measurable, specific strategic goals identified with the vision of the university in the process of implementing the strategy. It is also indicated that in the vast majority of cases the strategy was a response to the current problems of the university and reflected short-term plans. What is particularly interesting, the results of research conducted in Polish universities, both public and private, showed that the vast majority of respondents do not know the common methods and tools supporting the process of strategy implementation, such as SWOT analysis or the Balanced Scorecard (BSC) (Hrebiniak, 2006, p. 17).

In turn, references were made to informal conversations with local entrepreneurs, analysis of existing data on the labor market or forecasts of socio-economic development. However, the most surprising results concern the factors affecting the process of implementing the strategy in universities. The respondents attach great importance to external factors, especially legal conditions, while in their opinion, internal factors of the university are of marginal importance.

Summarizing the researched area, it is worth referring to the words of R. Ryńca, who indicates that "the development of universities is possible thanks to the use of a managerial approach to university management, based on rational planning, and techniques of strategic management (as well as operational) and continuous training of staff." Numerous studies and observations confirm that many universities undertake related efforts with an attempt to improve the effectiveness of strategic management. It should be pointed out that these universities will be strong competitors on the market of educational services through better adjustment to market requirements and high quality of services provided. As it has been pointed out many times, management at Polish universities must change and adapt to the evolution

of the management system at the world's leading universities. Therefore, it seems necessary to depart from traditional mechanisms in favor of modern mechanisms of functioning and managerial management systems (Kaplan, Norton, 1996, pp. 75-85).

## 3. Operational risk in the context of strategic management at a university

Despite numerous research works, both theoretical and empirical, the strategy's failure rate is still high. As Mankins and Steel demonstrate, for example, slightly more than 50% of the organization's strategies are not implemented effectively (Lloyd-Reason et all, 2005, pp. 206-226). On the other hand, Carroll and Mui observed that 46% of unrealized development concepts resulted from an incorrectly formulated strategy (Mankins, Steel, 2005, pp. 206-226). Other studies indicate a deepening of the gap between operational activities, and the implementation of the strategic plan. Because only 11% of managers are satisfied with the effects of strategic planning, although 66% of them regularly take action to achieve this goal (Lloyd-Reason et all, 2005, pp. 206-226). Cobbold and Lawrie present even less optimistic results. Researchers indicate that 80% of the managerial staff declares the correctness of the formulated strategies, with a simultaneous 14% level of their implementation (McMillan, 2007).

It should be noted that there are tools that help managers monitor the progress of the strategy implementation, e.g. by analyzing indicators reflecting the level of achievements to date or potential deviations (Mišanková, Kočišová, 2014, pp. 861-870). It also seems necessary to refer to such tools supporting the process of implementation and strategic control as Balanced Score Card (BSC) (Mitchell et all, 2007, pp. 287-300) or Strategic Execution Framework (SEF) based on strategic project portfolio management (Morgan et all, 2007).

It is also worth emphasizing that the results of the latest research indicate that the efforts of the management should focus not only on planning and controlling the strategy, but should also ensure the integration of such elements as support for employees or effective communication (Mosey, 2012, pp. 587-607). In the light of the considerations, it seems particularly important to identify obstacles that hinder the implementation of future development concepts for universities. It is worth referring to, inter alia, to the work of researchers such as Beer and Eisenstat, who describe the six killers of the strategy(Popławski, Markowski, 2016, pp.415-424). The first of the listed factors is top-down or laissez-faire senior management style. Hrebiniak (Hrebiniak, 2005) and Brenes and Molina (Brenes, Molina, 2008, pp. 590-598) also point

to this factor, stressing that active participation and commitment of the management play a key role in the process of effective implementation of the strategy. In many research works, attention is also paid to the appropriate management style of implementation activities, the key role of the managerial staff shaping the organizational culture (Morgan et all, 2007) or the expected attitudes of employees in terms of strategy implementation (Rasche, 2008, pp. 226-227; Rasmussen, Wright, 2015, pp. 782-799). It should also be emphasized that among the factors hindering the process of strategy implementation, the following are distinguished: unclear strategy (Reeves et all, 2015, pp. 215-217), contradictory priorities (Revuelto-Taboada et all, 2011, pp. 731-732), (Rothaermel et all, 2007, pp. 691-791), unclear strategic plans created, the paradox of the strategy being created (Ryńca, 2014, pp. 47-50), unclearness of the entire strategic management process among managers (Sager, 2009, pp. 1-51; Salih, Doll, 2013, p. 34) or the lack of knowledge and skills necessary in the process of strategy implementation (Porter, 1996, pp. 61-78). It is also worth mentioning the results of research conducted by McKinsey Quarterly, which showed that managing directors more often focus on building long-term development strategies(Schaap, 2006, p. 23). There are also studies showing that there is still a large percentage of organizations (38%) in which managers do not inform their subordinates about the implemented development concept (Shattock, 2009). Among the barriers hindering the process of strategy implementation, there is also a problem with the selection of strategic initiatives, lack of linking the strategy with specific plans and the implementation of minor strategic goals or problems with delegating decision-making powers or sharing responsibility (Sułkowski, Seliga, 2016). It also seems reasonable to refer to such implementation barriers as insufficient leadership skills of the management staff, (Taylor, Machado, 2006, pp. 137-160; Vaara, Tienari, 2011, pp. 370-390; Vaara et all, 2016, pp. 1-64) or the lack of involvement of a wider group employees in the process of implementing the strategy (Wilson et all, 2008).

The literature on the subject provides numerous examples showing that the subject of operational risk in the strategic management process is a well-known and extremely important issue (Siegel, Wright, 2015, pp.582-595; Simons, 1995). The confirmation of the above can be found, among others in numerous research works or internal documents of universities, treating, inter alia, about the need to establish rules in managing strategy risk or managing operational risk. Among the numerous definitions of risk management, it is worth citing the one in which it is indicated that it is allowing awareness of the possibility of taking risk and indicating that no action is free from risk. This approach is aimed at

increasing the probability of achieving goals, as well as the implementation of tasks. It is also indicated that the essence is to have a strong framework that enables effective identification, assessment and management of risk (Wright et all, 2007). The considerations presented above indicate the legitimacy of considering the issue of operational risk of factors hindering the process of strategy implementation in universities. It is also indicated that the analysis of factors must be included in the various stages of the strategy implementation process. This analysis was the basis for the research, the results of which are presented later in this study.

## 4. Operational risk in strategic management of a university - methodical chapter

### 4.1. Stages of the research procedure

The considerations presented above indicate the legitimacy of taking into account the issue of factors influencing the process of implementing the strategy at universities. The study covered 152 universities, including 102 public universities and 50 non-public universities. In the first stage, the factors influencing the strategy implementation process in all universities that took part in the study were analyzed.

In the survey, respondents were asked to indicate the probability of occurrence of a given factor during the implementation of the strategy at the university where they are employed. Each factor was assessed on a scale from 1 to 5, where:

1. Means a very low probability.
2. Unlikely.
3. Moderately likely.
4. Likely.
5. Almost sure.

A detailed table of factors affecting the process of strategy implementation in universities is presented in another work by the authors entitled *Factors affecting the process of strategy implementation in a higher education institution*. The factors were then listed (with the highest probability of occurrence in the strategy implementation process) for selected areas and stages of the strategy implementation process (defined by respondents as particularly problematic) at selected universities.

Due to significant differences in the functioning and management of public and non-public higher education institutions, the authors of this paper decided

to deepen their research in this area, and present the results of these studies in the next chapter. In order to measure the operational risk of factors influencing the strategy implementation process, the arithmetic mean of the responses obtained was calculated. The list of risk factors along with calculations of the probability of their occurrence, as well as the assessment of their impact, are presented in tables 1 and 2. Only those factors were selected for the further part of the study, the value of which both the probability of occurrence of the factor and the assessment of the impact amounted to 3.0 and above. Achieving such high probability of occurrence and impact assessment means that these factors are characterized by a high level of operational risk. Therefore, it seems reasonable to present these factors on the operational risk map illustrating the relationship between the frequency of losses (in this study, the probability of the factor occurring in the process of implementing the strategy) and importance for the organization (in this study, the assessment of the factor's impact on the process of effective strategy implementation). The results are presented in figures 1 and 2.

### 4.2. Methods, techniques and research tools

The starting point of the conducted empirical research was an in-depth analysis of literature on the subject regarding mainly research areas concerning factors influencing the strategy implementation process and strategic management at universities. The result of this analysis was the preparation of a research tool in the form of a questionnaire consisting of three parts. It was the basis for the research. The study was conducted using the PAPI (Paper and Pencil Interview) technique, based on a research questionnaire.

The area of research was related to factors influencing the strategy implementation process. The respondents were asked to assess the impact and probability of occurrence of each of the 113 factors classified under three areas: strategy, management and employees. In these areas there were taken into account four stages of the strategy implementation process: planning, formulation, implementation, and control and monitoring. These areas have been specified on the basis of the adopted research concept based on assumptions of the EFQM model (EFQM Excellence Model- The European Foundation for Quality Management. The criteria of the EFQM Model enable managers to understand the cause and effect relationships between how their organization operates and the results it achieves. The criteria, together with the associated RADAR tool, ensure that all management practices used

by the organization form a coherent system that is constantly improved and that allows the intended strategy of the organization to be implemented. The analysis of literature on the subject showed the application value of the EFQM model from the point of view of the process of strategy implementation, because the presented model contributes to the integrative development and implementation of the development concept (Shattock, 2009). In addition, it should be noted that the analysis of many research studies on the strategy implementation process allowed to identify areas, also included in the EFQM model, which the authors of this paper considered the most important from the perspective of the strategy implementation process, i.e. strategy, management and employees (Taylor, Machado, 2006, pp. 137-160). Additionally, each of the categories has been divided into four stages of the strategy implementation process: planning, formulation, implementation as well as control and monitoring. For each of the specified areas and stages of the strategy implementation process, a set of factors constituting its components has been developed. The presented factors are treated as formal indicators (determinants of a complex phenomenon), and thus building elements of the presented concept. The table presenting the individual factors influencing the strategy implementation process is available also as an element of the questionnaire. In order to graphically present the selected results, in terms of the specified factors, the results were presented in the form of an operational risk map (Sułkowski, Seliga, 2016). It should be noted that this tool presents a graphical dependence between two values: the frequency of losses (probability in this study) and their significance for the organization (impact assessment in this study) (Sułkowski, Seliga, 2016). Therefore, we can distinguish four areas:

1. Insignificant risk - due to the low impact and low frequency of occurrence, no recommendation to take reaction actions.
2. Material risk - decision-makers are required to think more carefully about action plans, as usually significant losses are generated in this area. These events are usually incidental.
3. Recurring risk - includes expected losses of negligible value. It is indicated that the reactions to their occurrence should include the process of improvements in order to eliminate negative effects.
4. Crisis situation - it is a type of risk that is of great importance for the organization and has a high frequency of occurrence. In this case, it is necessary to implement procedures dedicated to crisis management, including a revision of the activities performed so far.

### 4.3. Selection of the sample and characteristics of the study

In the first stage of the quantitative study, the method of collecting data in an open (explicit) and standardized manner was used. For this purpose, a standardized research questionnaire was used. 152 universities in Poland were subject to the study, including 102 public universities and 50 non-public universities. The research sample included various universities, both public and private. The sample size was determined taking into account the constraints associated with the implementation of the study (difficult availability of people in managerial positions at universities, responsible for the implementation of the strategy). The research sample accounted for 43% of the population.

**Table 1. Distribution of the general population by type of university in Poland**

| Higher education institutions | Research trial |
|---|---|
| Universities | 13,0 |
| Higher technical schools | 16,0 |
| Higher agricultural schools | 5,0 |
| Higher economic schools | 4,0 |
| Higher teaching schools | 4,0 |
| Medical Universities | 9.0 |
| Higher maritime schools | 1,0 |
| Academies of physical education | 4,0 |
| Higher art schools | 5,0 |
| Higher theological schools | 1,0 |
| Schools of the Ministry of National Defense and the Ministry of Internal Affairs | 5,0 |
| Other public schools | 35,0 |
| Non-public universities | 50,0 |
| **Sum:** | **152** |

**Source:** own elaboration based on https://stat.gov.pl/szkolnictwo_wyzsze_w_roku_akademickim_2020-2021 and https://www.gov.pl/

The list of universities in Poland prepared by the Ministry of Education and Science was used as the survey. This website contains an up-to-date and complete list of both public and private universities in Poland. The study used the stratified random method, based on dividing the statistical population into subsets, which were distinguished on the basis of features significant for the study (table 1).

This results in the division of the frame into quantitatively and qualitatively different parts. The drawing of research units within individual subgroups was simple, which means that each unit within a given stratum had the same probability of being found in the sample. Due to the fact that direct drawing of independent samples is performed within each layer in a manner that is separate from the other layers, the set is exhaustive (each element is included in one of the layers.) The research sample was selected in a disproportionate way. This means that the sample structure does not reflect the general population. Thus, in order to compensate for the inhomogeneous probabilities of the population units entering the sample, the sample weighting was performed. The decrease in the stratum of the smallest universities was due to their domination in the population. The respondents in the study were people holding managerial positions who have an impact on the process of strategy implementation at universities in Poland (table 2).

**Table 2. Distribution of positions of respondents participating in the survey**

| Position held | |
|---|---|
| Rector of the university | 11 |
| Dean of the faculty at the university | 9 |
| Chancellor of the university | 45 |
| An employee of the department responsible for the strategy implementation process | 32 |
| An employee directly related to the process of developing, formulating, implementing or controlling the strategy (employee not employed in the department responsible for the strategy implementation process, but acting, for example, as a consultant, specialist) | 55 |

**Source:** own elaboration

## 5. Results

In the first stage, the factors influencing the process of strategy implementation at all universities that participated in the study were analyzed. Then, the factors (with the highest probabilities of occurrence in the process of strategy implementation) were specified for selected areas and stages of the strategy implementation (identified by respondents as particularly problematic) at selected universities. In order to enable the measurement of the operational risk of factors influencing the process of strategy implementation, the average for the obtained responses was calculated. In the table 3 presents a list of risk factors along with calculations for the responses of respondents representing universities in Poland. For the remainder of the study, only those factors were selected for which both the probability value of the factor and the impact assessment were 3.0 and above. Achieving both such high values of the probability of occurrence and impact assessment mean that these are factors characterized by a high level of operational risk. Therefore, it seems reasonable to present these factors on the operational risk map illustrating the connection between the frequency of losses (in this study, the probability of a factor occurring in the strategy implementation process) and the importance for the organization (in this study, the factor's impact on the process of effective strategy implementation). The results are presented in figure 1.

**Table 3. The results of research on the components of operational risk - universities in Poland**

| Area | Stage | Factor | Probability of occurrence | Impact Assessment | Risk level |
|---|---|---|---|---|---|
| STRATEGY | PLANNING | Conflicting priorities | 3,7 | 4,3 | 15,91 |
| | | Incorrect calculation of funds for the implementation of the strategy | 4,1 | 3,0 | 12,3 |
| | | Lack of obtaining additional sources of financing for the implementation of the strategy | 4,2 | 4,5 | 18,9 |
| | | The strategy is in conflict with the existing organizational structure | 4,5 | 4,8 | 21,6 |
| | | Unrealistic, unclear and impossible to implement the development concepts | 3,1 | 3,4 | 10,54 |

| | | | | |
|---|---|---|---|---|
| FORMULATING | Strategic goals defined in isolation from reality | 4,0 | 4,8 | 19,2 |
| | Excessive number of targets | 4,3 | 4,6 | 19,8 |
| | No schedule and no indication of „milestones" | 4,2 | 3,6 | 15,1 |
| | Unnecessary bureaucracy | 4,7 | 1,8 | 8,5 |
| | Failure to define and define the impact of currently created projects on the implementation of the strategy | 4,3 | 3,1 | 13,3 |
| | Failure to identify and define the impact of the emerging development concepts on projects under implementation | 4,3 | 3,0 | 12,9 |
| IMPLEMENTATION | Problem with translating the strategy | 4,5 | 4,6 | 20,7 |
| | Lack of knowledge of the strategy at all levels of the organization | 4,7 | 3,9 | 18,3 |
| | Lack of consistent implementation of strategic goals | 4,0 | 4,3 | 17,2 |
| | Failure to provide information about the progress in implementing the strategy | 4,1 | 3,6 | 14,8 |
| | No translation of the strategy into current operational activities | 4,2 | 3,5 | 14,7 |
| CONTROL AND MONITORING | The inflexibility of the strategy | 4,7 | 4,3 | 20,21 |

| | Stage | Factor | Probability of occurence | Impact Assessment | Risk level |
|---|---|---|---|---|---|
| MANAGEMENT | PLANNING | Lack of a management staff experience in creating the strategy | 4,1 | 4,3 | 17,6 |
| | | Inability to prioritize tasks | 4,2 | 4,6 | 19,3 |
| | | Lack of appropriate education | 4,1 | 3,9 | 16,0 |
| | | No use of implementation programs | 4,3 | 4,0 | 17,2 |
| | | Failure to define supervisory and decision-making relations between the management board and lower-level managers | 4,0 | 3,9 | 15,6 |
| | FORMULATING | Unclear course of the strategy management process | 4,2 | 4,8 | 20,2 |
| | | Lack of ability to engage employees | 4,2 | 4,5 | 18,9 |
| | | Lack of an appropriate incentive system and employee remuneration | 4,7 | 4,7 | 22,1 |
| | | | | | 0,0 |
| | | Lack of involvement of a wider group of employees in the strategy formulation stage | 4,5 | 4,8 | 21,6 |
| | | Unclear communication of responsibility | 4,0 | 4,5 | 18,0 |
| | | Ineffective or lacking employee training systems | 4,6 | 4,7 | 21,6 |
| | IMPLEMENTATION | No consequences of action | 4,3 | 4,5 | 19,4 |
| | | Failure to stimulate the desired behavior of employees | 4,5 | 4,5 | 20,3 |
| | | Overloading the management with current affairs | 4,5 | 4,8 | 21,6 |
| | | Decision making time too long | 4,4 | 4,2 | 18,5 |
| | | Malfunctioning of decision-making mechanism | 4,4 | 4,2 | 18,5 |
| | | Lack of management support for actions initiated by lower-level employees | 4,3 | 4,5 | 19,4 |

| | Stage | Factor | Probability of occurence | Impact Assessment | Risk level |
|---|---|---|---|---|---|
| MANAGEMENT | CONTROL AND MONITORING | Lack of an effective evaluation and control system | 3,2 | 4,3 | 13,8 |
| | | No strategic controlling | 3,4 | 4,3 | 14,6 |
| | | No supervisory controller appointment | 4,2 | 4,3 | 18,1 |
| | | Incorrect or unproper monitoring of activities | 3,8 | 4,6 | 17,5 |
| | | No effective measurement system | 3,0 | 4,6 | 13,8 |
| | | Inability to identify major implementation problems of the strategy | 3,4 | 4,5 | 15,3 |
| | PLANNING | Lack of skills, knowledge and experience among all employees in implementing the strategy | 4,5 | 4,3 | 19,4 |
| | | Negative interactions between individual departments | 3,9 | 4,2 | 16,4 |
| | | Increased employee skepticism | 4,0 | 3,4 | 13,6 |
| EMPLOYEES | FORMULATING | Reluctance to submit your own ideas | 4,2 | 3,4 | 14,3 |
| | | Lack of employee involvement in the strategy formulation process | 3,4 | 4,3 | 14,6 |
| | | No sense of responsibility among employees | 4,4 | 4,0 | 17,6 |
| | IMPLEMENTATION | Unfamiliarity with the strategy among all employees | 4,4 | 4,6 | 20,2 |
| | | No feedback on the course of activities within the implementation of the strategy | 4,3 | 4,5 | 19,4 |
| | | Resistance to change | 4,6 | 4,8 | 22,1 |
| | | Decline in employee engagement | 4,5 | 4,6 | 20,7 |
| | | Lack of employee motivation | 4,5 | 4,8 | 21,6 |
| | CONTROL AND MONITORING | Employees receive incorrect or abstract information regarding the implementation of subsequent strategic goals | 4,0 | 4,6 | 18,4 |

**Source:** own study

Table 4 presents a list of factors influencing the strategy implementation process occurring at non-public schools. In order to compare the obtained results, the same list of risk factors was presented in both cases. Due to the significant differences in the results of the survey, the authors of this study also in the case of non-public schools decided to present the list of risk factors in a graphical form using the risk map, which is presented in figure 2.

When analyzing the obtained results, it should be stated that in the case of non-public schools, the distribution of factors on the risk map is completely different than in the case of all universities. It should be noted that the risk factors, which in the case of all universities in the case of the crisis situation, are in three quarters in the case of non-public schools: insignificant risk, significant risk and crisis situation. For example, in the quadrant of insignificant risk there are such factors as: unnecessary bureaucracy, negative interactions between individual departments, increased skepticism of employees or reluctance to submit their own ideas. In the case of factors assigned to the quadrant, the risk is insignificant, no recommendation to take reaction measures is given due to their low impact and low frequency of occurrence (Wright et all, 2007).

**Table 4. Research results in the field of operational risk components - the 10 highest rated non-public universities**

| Area | Stage | Factor | Probability of occurrence | Impact Assessment | Risk level |
|---|---|---|---|---|---|
| STRATEGY | PLANNING | Conflicting priorities | | | |
| | | Incorrect calculation of funds for the implementation of the strategy | | | |
| | | Lack of obtaining additional sources of financing for the implementation of the strategy | | | |
| | | The strategy is in conflict with the existing organizational structure | | | |
| | | Unrealistic, unclear and impossible to implement the development concepts | | | |

| | | | | | |
|---|---|---|---|---|---|
| STRATEGY | PLANNING | Conflicting priorities | 2,9 | 4,5 | 13,05 |
| | | Incorrect calculation of funds for the implementation of the strategy | 2,1 | 4,3 | 9,03 |
| | | Lack of obtaining additional sources of financing for the implementation of the strategy | 1,9 | 4,2 | 7,98 |
| | | The strategy is in conflict with the existing organizational structure | 1,7 | 4,6 | 7,82 |
| | | Unrealistic, unclear and impossible to implement the development concepts | 1,7 | 4,5 | 7,65 |
| | FORMULATING | Strategic goals defined in isolation from reality | 2,7 | 4,5 | 12,15 |
| | | Excessive number of targets | 2,9 | 3,7 | 10,73 |
| | | No schedule and no indication of „milestones" | 2,9 | 3,9 | 11,31 |
| | | Unnecessary bureaucracy | 1,9 | 2,6 | 4,94 |
| | | Failure to define and define the impact of currently created projects on the implementation of the strategy | 2,8 | 3,5 | 9,8 |
| | | Failure to identify and define the impact of the emerging development concepts on projects under implementation | 2,5 | 3,8 | 9,5 |
| | IMPLEMENTATION | Problem with translating the strategy | 4,1 | 4,1 | 16,8 |
| | | Lack of knowledge of the strategy at all levels of the organization | 3,7 | 4,5 | 16,7 |
| | | Lack of consistent implementation of strategic goals | 3,5 | 4,4 | 15,4 |
| | | Failure to provide information about the progress in implementing the strategy | 3,9 | 4,2 | 16,4 |
| | | No translation of the strategy into current operational activities | 3,8 | 4,3 | 16,3 |
| | CONTROL AND MONITORING | The inflexibility of the strategy | 4,2 | 4,4 | 18,5 |

| Area | Stage | Factor | Probability of occurence | Impact Assessment | Risk level |
|---|---|---|---|---|---|
| MANAGEMENT | PLANNING | Lack of a management staff experience in creating the strategy | 1,2 | 4,4 | 5,28 |
| | | Inability to prioritize tasks | 1,3 | 4,4 | 5,72 |
| | | Lack of appropriate education | 1,3 | 3,9 | 5,07 |
| | | No use of implementation programs | 2,6 | 4,5 | 11,7 |
| | | Failure to define supervisory and decision-making relations between the management board and lower-level managers | 1,1 | 3,7 | 4,07 |
| | | Unclear course of the strategy management process | 2,1 | 4,3 | 9,03 |
| | | Lack of ability to engage employees | 1,5 | 3,2 | 4,8 |
| | FORMULATING | Lack of an appropriate incentive system and employee remuneration | 2,9 | 4,5 | 13,05 |
| | | Brak umiejętności angażowania pracowników | 3 | 4,4 | 13,2 |
| | | Lack of involvement of a wider group of employees in the strategy formulation stage | 3,5 | 4,2 | 14,7 |
| | | Unclear communication of responsibility | | | 0 |
| | | Ineffective or lacking employee training systems | 3,8 | 4,4 | 16,72 |
| | | No consequences of action | 3,8 | 3,5 | 13,3 |
| | | Failure to stimulate the desired behavior of employees | 4,2 | 4,3 | 18,1 |
| | IMPLEMENTATION | Overloading the management with current affairs | 2,7 | 3,1 | 8,37 |
| | | Decision making time too long | 3,8 | 4,3 | 16,34 |
| | | Malfunctioning of decision-making mechanism | 3,6 | 4,4 | 15,84 |
| | | Lack of management support for actions initiated by lower-level employees | 2,9 | 3,7 | 10,73 |
| | | Lack of an effective evaluation and control system | 2,4 | 3,4 | 8,16 |
| | | No strategic controlling | 3,6 | 3,8 | 13,68 |

| Area | Stage | Factor | Probability of occurence | Impact Assessment | Risk level |
|---|---|---|---|---|---|
| MANAGEMENT | CONTROL AND MONITORING | No supervisory controller appointment | 2,4 | 3,8 | 9,12 |
| | | Incorrect or unproper monitoring of activities | 2,7 | 3,7 | 9,99 |
| | | No effective measurement system | 3,1 | 3,8 | 11,78 |
| | | Inability to identify major implementation problems of the strategy | 3,3 | 4,2 | 13,86 |
| | | Lack of experience of the management staff in creating the strategy | 2,4 | 4,0 | 9,6 |
| | | Inability to prioritize tasks | 3,8 | 4,4 | 16,72 |
| EMPLOYEES | PLANNING | Lack of skills, knowledge and experience among all employees in implementing the strategy | 3,6 | 3,8 | 13,68 |
| | | Negative interactions between individual departments | 2,7 | 2,7 | 7,29 |
| | | Increased employee skepticism | 1,3 | 2,1 | 2,73 |
| | FORMULATING | Reluctance to submit your own ideas | 2,5 | 2,7 | 6,75 |
| | | Lack of employee involvement in the strategy formulation process | 3,3 | 3,5 | 11,55 |
| | | No sense of responsibility among employees | 4,1 | 3,7 | 15,17 |
| | IMPLEMENTATION | Unfamiliarity with the strategy among all employees | 4,0 | 3,8 | 15,2 |
| | | No feedback on the course of activities within the implementation of the strategy | 4,0 | 4,0 | 16,0 |
| | | Resistance to change | 3,8 | 3,9 | 14,8 |
| | | Decline in employee engagement | 3,6 | 3,8 | 13,7 |
| | | Lack of employee motivation | 3,3 | 4,0 | 13,2 |
| | CONTROL AND MONITORING | Employees receive incorrect or abstract information regarding the implementation of subsequent strategic goals | 3,3 | 4,4 | 14,5 |

**Source:** own study

The risk map shown in Figure 1 presents the distribution of risk factors in terms of the probability of their occurrence and the severity of losses. It should be noted that all factors are concentrated quite close to each other, as well as they are located in the area referred to as a crisis situation. According to the respondents, these are factors of great importance and high frequency of occurrence at Polish universities. In light of the above, it is indicated that it is necessary to implement procedures dedicated to crisis management, including, inter alia, revision of the activities carried out so far in the implementation of the strategy.

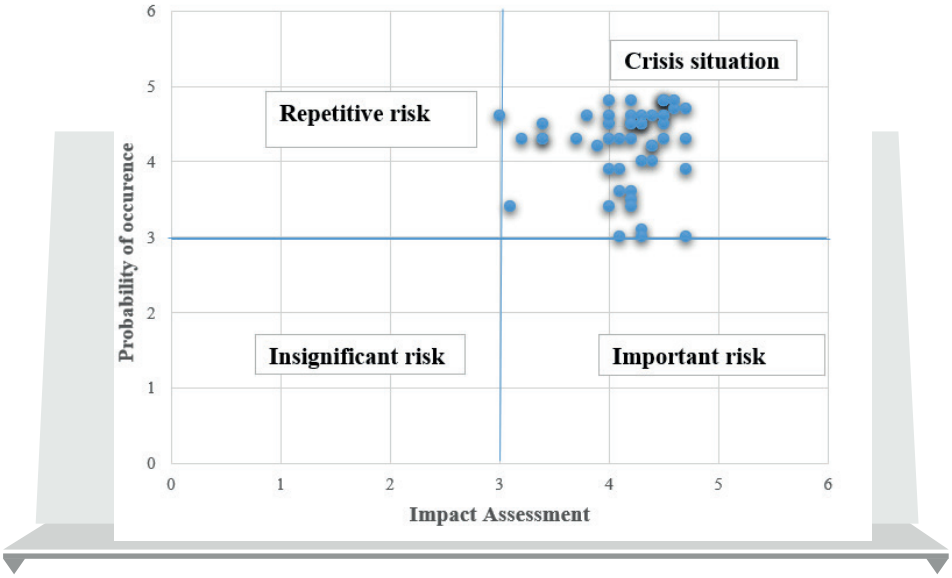


**Figure. 1. Map of operational risk at universities in Poland**

**Source:** own study

As it has already been indicated, only selected factors with the highest values of probability and impact assessment have been presented.

It should be emphasized that the high values of the probability of the occurrence of the specified factors prove that the process of implementing the strategy is problematic for all the specified types of universities, and the implementation of strategic goals still causes numerous difficulties.

An additional obstacle is certainly the fact that due to the conditions of public universities, university authorities are also struggling with limited possibilities in the area of adjusting the incentive system and remuneration of employees, as well as the training system. Due to the key role of employees in the strategy implementation process, the last two factors require special attention, and the current conditions should be improved. Due to significant differences in the functioning and management of public and non-public universities, the author decided to deepen the research in selected areas of operational risk at universities. The first stage of the research was the measurement of operational risk among non-public universities occupying the first ten positions in the Perspektywy 2021 ranking. method of university management, dynamic reactions to the changing environment of a university and care for the highest quality of education and research. It was therefore assumed that these schools can be considered successful in implementing the adopted development concepts. Another argument supporting this choice was also the relatively small percentage of non-public schools participating in the study (33%).

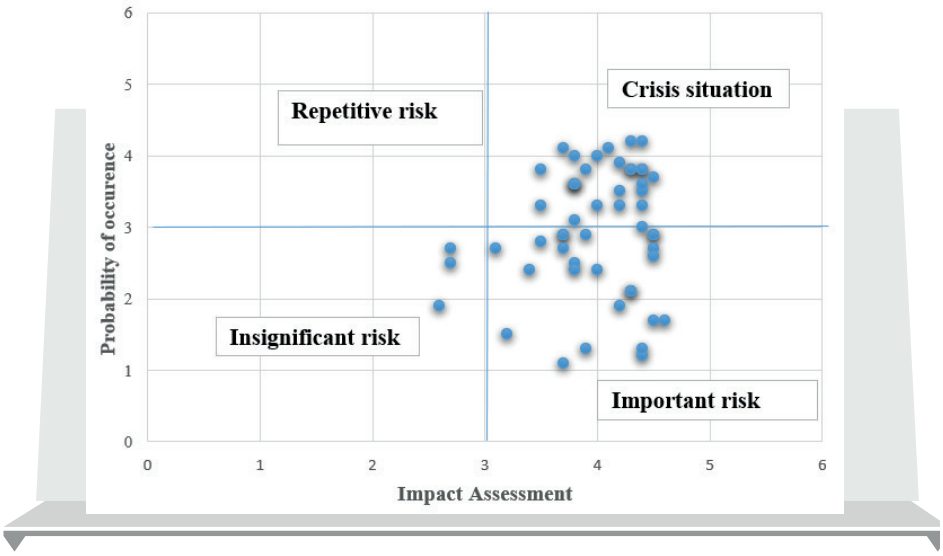


**Figure 2. Map of operational risk in non-public universities in Poland**

**Source:** own study

When analyzing the results obtained, it should be stated that in the case of non-public schools, the distribution of factors on the risk map is completely different from for all higher education institutions. It should be noted that the risk factors that in the case of all universities, the crisis situation was in the only area, in the case of non-public schools, they are in three quadrants: insignificant risk, significant risk and crisis situation. For example, in the insignificant risk quadrant there are such factors as: unnecessary bureaucracy, negative interactions between individual departments, increased skepticism of employees or reluctance to submit their own ideas. In the case of factors assigned to the quarter, the risk is insignificant, there are no recommendations to take reactive actions due to their low impact and low frequency of occurrence. Other factors have been assigned to the area of significant risk and crisis situation. In the quarter of significant risks, there were, among others: factors such as: conflicting priorities, miscalculation of resources for strategy implementation, lack of use of implementation programs or unclear course of the strategy management process. It is indicated that the factors in the significant risk quadrant generate losses of significant value, but the probability of their occurrence is lower. It should also be emphasized that, despite the incidental nature of their occurrence, they have a significant impact on the possibility of implementing the strategy in accordance with the original arrangements.

In order to limit the severity of potential losses, it is recommended to design procedures and create scenarios that can be used when a given factor occurs. As aptly noted by J. Radomska, such activities bear the characteristics of the operational risk management process (Wright et all, 2007). This means that their main goal is not only to limit the possible negative consequences, but also to build strategic awareness in terms of dependencies and relationships between the listed factors. The last group of risk factors are those located in the crisis situation quadrant. One can specify e.g. factors such as: the problem of translating the strategy, inflexibility of the strategy, ineffective employee training systems or lack of knowledge of the strategy at all levels of the organization. Recommendations regarding the factors located in this quadrant are analogous to those for all universities. Therefore, it is indicated that it is necessary to implement procedures dedicated to crisis management, including e.g. revision of the current activities in the implementation of the strategy.

## 6 . Discussion and conclusion

The conducted analyzes allow for drawing several conclusions. One of the most important is to indicate that the highest level of operational risk was recorded for the management area, especially at the stage of strategy implementation (the average level of operational risk was 17.04) and at the stage of strategy formulation (the average level of operational risk was 16.75). Such a high level of risk may result from relatively little experience, knowledge and skills of the management in the area of strategy implementation, especially at the stage of its formulation and implementation. The confirmation of the above can be found in the literature on the subject, as the process of strategy formulation and implementation is described as particularly difficult. Taking into account the variability and turbulence of the environment of universities, as well as the influence of the State, it can also be concluded that in this area there is relatively the lowest possibility of controlling the implementation activities. It is also worth emphasizing here the limited decision-making possibilities among the managerial staff, as well as the complex decision-making process. It also seems reasonable to pay attention to the aspect of commitment and willingness to cooperate among the management in the area of implementing the strategy of universities, taking into account the significant workload of current operational work. In the light of the above, factors with a particularly high level of operational risk should be specified, i.e. in the area of management, at the stage of implementing the strategy: overloading the management with current affairs, failure to stimulate the desired behavior of employees or lack of consistency in actions. On the other hand, in the area of management, at the stage of strategy formulation, factors such as the lack of an appropriate incentive and remuneration system, ineffective employee training systems or the lack or unclear course of the strategy management process can be listed. All the above-mentioned factors on the operational risk map are included in the crisis situation area. Therefore, these are factors of great importance and high frequency of occurrence at Polish universities. In light of the above, it is indicated that it is necessary to implement procedures dedicated to crisis management, including, inter alia, revision of the activities carried out so far in the implementation of the strategy.

In the first stage of the study, among 113 factors influencing the process of strategy implementation at universities, 51 were listed with the highest level of operational risk. It should be noted that there is no significant differentiation between the factors indicated. All of them were considered very important

(according to the classification used to create the operational risk map), and therefore these are those of great importance in the process of strategy implementation. It seems that the reasons for such a high level of operational risk of the specified factors may lie in the relatively low knowledge, skills and experience of the management staff in implementing the strategy, incomplete information on the occurrence of the described factors and numerous limitations in the functioning of schools resulting from state regulations.

Slightly different results can be observed when making a detailed analysis of 113 factors influencing the process of implementing the strategy in non-public schools. An identical group of 51 factors was included in the analysis. A clear difference between the specified operational risk factors should be indicated. It is worth noticing that risk factors, which in the case of all universities were only in the area of crisis situation, in the case of non-public schools, are in three areas: insignificant risk, significant risk and crisis situation. For example, in the area of insignificant risk there are such factors as: unnecessary bureaucracy, negative interactions between individual departments, increased skepticism of employees or reluctance to submit their own ideas. In the case of factors assigned to the area, the risk is insignificant, no recommendation to take reaction measures is given due to their low impact and low frequency of occurrence (Sułkowski, Seliga, 2016). The remaining factors have been assigned to the area of significant risk and crisis situation. In the area of risk, significant are, among others, factors such as: contradictory priorities, incorrect calculation of funds for the implementation of the strategy, lack of use of implementation programs or unclear course of the strategy management process. It is indicated that the factors in the area of significant risk generate losses of significant value, but the probability of their occurrence is lower. It should also be emphasized that despite the incidental nature of their occurrence, they have a significant impact on the possibility of implementing the strategy in accordance with the original arrangements. Searching for the causes of this phenomenon, it can be presumed that the current state is a derivative of incomplete information about the occurrence of the described factors, as well as short-term thinking. It is indicated that the majority of organizations, including universities, by setting out a strategy, set short-term tasks, while taking actions only for events that seriously threaten their implementation. This may indicate the lack of an early warning system about possible symptoms of risk factors. The lower level of operational risk of factors is certainly related to the greater awareness of the impact and importance of individual risk factors, which results in taking actions to eliminate their occurrence. Regardless of the reasons, it should be emphasized

that the lower probability of the occurrence of individual factors should be considered a positive phenomenon. The obtained results will be the basis for further in-depth research in the presented area. In the future, the authors want to conduct research aimed at examining the relationship between the occurrence of factors influencing the process of strategy implementation in universities and the degree of achievement of strategic goals. A number of analyzes have been carried out.

**Abstract**

In recent decades, the concept of strategic management at universities has attracted more and more attention. There is a significant increase in the awareness of the importance of well-developed development concepts, both among university employees and management staff. Numerous research studies also discuss the need for changes in that presented area. Unfortunately, the analysis of the literature on the subject shows that more attention is paid to the strategy development phase than to its implementation. There are also few studies examining the influence of factors on the strategy implementation at universities. The area of research was related to factors influencing the process of strategy implementation. This article presents the detailed results of the survey of analysis, which covered the opinions of management and employees influencing the strategy implementation at universities in Poland. The main objective of the study was to measure the operational risk of factors influencing the process of strategy at universities and to specify the factors with the highest operational risk level. The study was conducted using the PAPI (Paper and Pencil Interview) technique, based on the research questionnaire. The method of collecting data in an open (explicit) and standardized manner was used there. For this purpose, a standardized research questionnaire was used.

**Keywords:** *strategy implementation, obstacles, universities, higher education.*

**JEL Codes:** **M200**

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