SELECTED INSTRUMENTS FOR IMPROVING UNIVERSITY MANAGEMENT

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Purpose: The aim of the article is a theoretical and cognitive characterization of selected instruments for improving university management (such as concepts, systems and methods in the area of quality management), and then analyzing their knowledge and use on the example of the University of Bielsko-Biala.

Design/methodology/approach: The article is a theoretical and analytical study in the field of selected instruments for improving university management, based on a case study of the University of Bielsko-Biala. The analytical part of the article was carried out in the last quarter of 2023 and included the university's rector and other management staff.

Findings: The case study allowed to indicate which instruments for improving university management are known and used at the analyzed university. The presentation of some of the instruments was supported by practical examples of their use, in particular in the area of value stream mapping.

Research limitations/implications: Limitations in the implementation of the case study in the field of university management improvement instruments should be related to the instruments included in the analysis. Such action is usually subjective and the researcher is not always able to comprehensively address the issue at hand, taking into account the methodological and substantive aspects.

Practical implications: Through a case analysis, it was indicated which instruments for improving university management are known and used at the studied university. Such an analysis may be a contribution to further research and discussion on management improvement instruments that can be used by universities.

Originality/value: The added value of the article is the case analysis, which allowed for the identification of selected improvement instruments that can be used in university management.

Keywords: instruments, university, improvement.

Category of the paper: Case study.

1. Introduction

The organizational order of Polish public universities is based on the collective and term-of-term election of university managers, which is not conducive to the implementation of consistent management and organizational solutions that are implemented by foreign universities, in particular Anglo-Saxon and Western European ones. Due to the above, a deficit in effective management solutions in Polish public universities can be noticed. Therefore, many universities in Poland need organizational improvement based on the use of effective methods and world-proven management concepts. It is primarily about specific, implemented concepts and methods that improve the organizational functioning of universities, and not about bureaucratic or statutory requirements, such as the creation of formalized strategies or quality systems education. The source of effective solutions are the trends of new public management and governance applied to activities in universities and science, which, however, need to be adapted to the specificity of each university (Sułkowski, 2017, p. 10).

In addition to implementing concepts, approaches and systems at universities to support and improve the management of these entities, attention should also be paid to building an appropriate quality culture and attention to the quality of management. These issues are also discussed in this article.

The article is of a theoretical and cognitive nature and mainly presents selected instruments for improving university management. The cognitive part of the article presents an analysis of the knowledge and use of improvement instruments on the example of the University of Bielsko-Biala. In terms of practical examples, reference was made to an instrument important for the functioning of universities - value stream mapping.

2. Improving university management - theoretical aspect

It should be stated that the concept of "quality culture" was developed on the basis of management theory. One of many definitions states that it is "a set of values, traditions, procedures and beliefs accepted by its members organization, creating an environment conducive to shaping and continuous improvement of quality". Quality culture is strongly related to the management culture and culture of a given organization, together creating the so-called the triad of rational organizational operation. It should also be emphasized that quality culture is one of the key ones elements in Total Quality Management (Lendzion, 2019, pp. 25-27; Łukasiński, 2011, p. 2).

In the area of higher education, "quality culture" is understood as a combination of academic culture and business management of the university. Therefore, it is characterized by constant striving for improvement quality in every aspect of the university's functioning and an individual sense of belonging to the community. It most often appears in the context of building and improving internal quality systems. According to the European University Association, quality culture combines two distinct sets of elements: cultural and organizational. Cultural elements include: common sharing of values and beliefs and expectations related to quality, and the organizational elements are: a structural and management system with defined processes that strengthen quality and aim to coordination of activities, internal quality assurance and improvement systems and a defined organizational structure. Quality culture helps and strengthens the continuity and coherence of activities at the university positive behavior patterns (e.g., respect, appreciation, motivation, high personal culture) and activities (e.g., cooperation, partnership, commitment), improves communication between stakeholders, stimulates action, builds organizational culture, affects satisfaction, efficiency and quality of work (Lendzion, 2019, pp. 25-27; Sursock, 2011).

The concept of management quality is directly related to the issue of quality culture and instruments for improving university management. Quality culture creates the appropriate quality of management. This, in turn, somehow forces the use of instruments in university management that improve processes and services.

Management quality refers to the quality of work of managers providing management services, whose efforts cannot be limited only to human resources management. The quality of decisions and actions of university managers determines the quality of university management, including the system for ensuring the quality of education and the quality of educational services provided (Lisiecka, 2012, pp. 134-151). The quality of implemented processes and services results from the quality of planning processes (at each management level), organizing processes (actions taken to achieve the set goals), motivation processes (applying motivational stimuli to academic teachers and administration employees) and control processes (actions verifying the adopted goals, assumed effects, e.g., education, etc.) (Detyna, 2016, p. 89).

It should be noted that the quality of management, like many other aspects related to quality, is subject to improvement. T. Wawak points out a certain catalog of ways to improve the quality of management (Wawak, 2012, pp. 131-133):

1. Focus on value and results, including research, teaching and economics.
2. Orientation towards students and PhD students. Improving the quality of management must be determined by meeting the expectations of customers, which for universities are students and doctoral students.
3. Focus on leadership and development strategy. Improving management at a university requires management at each level to set clear goals and values visible to subordinate units, indicate strategies and directions for their development, and create an atmosphere enabling employees, students and doctoral students to focus on their implementation.

4. Process optimization in conditions of constant change, based on facts. Achieving high quality management requires implementing a process approach at the university.

5. Employee commitment and satisfaction. Improving the quality of management requires the release and use of employees' potential, their initiative and commitment to work. Quality management becomes the main feature and requirement of management, and the concept of Total Quality Management becomes the basic concept of university management.

6. Implementation of concepts, systems, methods, techniques and tools ensuring the desired level of quality at a given time and its improvement (e.g., Lean Management (Höfer, Naeve, 2017)).

7. A set of values shared by university management and employees as well as an organizational culture based on trust and leadership.

8. Partnership and relations with the environment. Improving university management requires, in order to increase the effectiveness of its operations, the creation and development of relationships with partners based on the principles of integration, trust and knowledge sharing. Building partnerships with other universities, research centers in Poland and abroad, and the economy enables mutual exchange of experiences in improving the quality of management.

In addition to improving the quality of management, one should remember about the need to evaluate it. It seems that an effective solution will be to develop an appropriate assessment model. The management quality assessment model should include criteria for assessing the levels of this quality. The stages of developing criteria for assessing the level of management quality at a university may be as follows (Tutko, 2016, p. 105; Wolniak, 2014, pp. 157-166):

1. Identification of determinants of management quality.

2. Identification of criteria and sub-criteria for assessing management quality.

3. Examination of the significance of criteria and sub-criteria for assessing the quality of management.

4. Giving weights to the criteria and sub-criteria for assessing the quality of management (parameterization of criteria).

Among the models operating in the area of broadly understood quality management, models based on the EFQM model (European Foundation for Quality Management), TQM (Total Quality Management) guidelines and the principles arising from the ISO 9001 standard may prove useful in assessing the level of management quality.

The EFQM model is based on the principles of excellence covering three areas: direction of action (the purpose of the organization, fulfillment of a specific strategy), execution (resources necessary to implement the strategy) and results (now and in the future) (The EFQM Model, 2019). It should be noted that the principles of excellence of the EFQM model are determinants of the quality of management at the university. The degree to which they are met by university managers and heads of organizational units of the university determines the level

of quality of university management. This level means the quality of management services provided by the managers of a university or an organizational unit of a university.

Total Quality Management constitutes the concept of quality management according to which all organizational units at the university and all its employees have an impact on shaping and improving quality (Slack, Chambers, Johnston, 2007, p. 651). The TQM concept is based on the soft aspects of management, including: leadership, respect, integrity, trust, honesty, commitment, customer satisfaction, ethics, continuous improvement, training, motivation, teamwork, error prevention and good communication. They can be used to create criteria for assessing the level of management quality at the university.

The implementation of the above aspects allows us to distinguish the following approaches to implementing TQM at universities (Abdus Samad, Thiyagarajan, 2015, p. 625):

1. Student orientation - the quality of educational services is shaped and developed through employee development (training).
2. In the second approach, the focus is on university employees. Along with increasing responsibility for implemented activities, the motivation system should be strengthened, in particular in the area of appreciating employees for their efforts and improvement activities.
3. The third approach focuses on the services provided and aims to ensure their compliance with the adopted standards in key areas for these services.

The principles of quality management resulting from ISO 9001 can also be used to develop criteria for assessing the level of management quality at a university. The quality management system based on the ISO 9001 standard constitutes the following principles: customer orientation, leadership, people involvement, process approach, continuous improvement, making decisions based on facts and relationship management. They coincide with the above aspects regarding the EFQM model and the TQM concept.

3. Case study – University of Bielsko-Biala

This cognitive part of the article presents the case of the University of Bielsko-Biała (UBB) in the context of selected instruments for improving university management. This part presents selected improvement instruments in terms of their knowledge and use by the rector and other people responsible for university management. Then, attention was focused on the practical application of the Value Stream Mapping instrument in the area of research workers going on business trips. This instrument clearly reflects possible aspects of improvement. According to the above, the basic goal of this part of the study was analysis of selected instruments for improving university management, in particular in terms of their knowledge and use at the University of Bielsko-Biala. Further assumptions of the research presents table 1.

Table 1.
Assumptions of the research

Items	Description
Research goal	Analysis of selected instruments for improving university management, in particular in terms of their knowledge and use at the University of Bielsko-Biala
Research method	Case study
The interviewees	The Rector and other managers of University of Bielsko-Biala
Date of realization	Last quarter of 2023

Source: personal elaboration.

Table two presents a catalog of improvement instruments that can be used to improve university management. The catalog has an open, subjective form and the author's intention is, in part, to spark a discussion on its shape, and more specifically on the improvement instruments suited to the specificity of the university.

Table 2.
Improving instruments

Instruments for improving university management	Knowledge	Use
Total Quality Management	-	-
Quality management system according to ISO 9001	-	-
Management through processes	+	+
Standardization	+	+
Value Stream Mapping (graphical analysis and process improvement)	-	-
Kaizen – continuous improvement	-	-
PDCA (continuous improvement cycle – Plan – Do – Check – Act)	-	-
5S (workplace improvement)	-	-
FMEA method (identification of irregularities in the process and service - Failure Mode and Effect Analysis)	-	-
QFD method (service improvement – Quality Function Deployment)	-	-
Benchmarking (comparison to patterns)	+	+
Reengineering (process redesign)	-	-
Audit	+	+
Brainstorm	+	+
Block diagram	+	+
Ishikawa chart (descriptive analysis of the causes of abnormalities)	-	-
Pareto chart (quantitative analysis of the causes of irregularities)	-	-
Control charts	+	+
Checklist	+	+
Program chart of the decision process (methodology of conduct in the event of irregularities)	-	-
5Why (searching for the causes of the problem)	-	-
SWOT analysis	+	+
Knowledge management	+	+
Intellectual capital management	+	+
Training system	+	+
Employee suggestion system	+	+
Motivational system	+	+
Corrective actions	+	+
Preventive actions	+	+
Risk analysis	+	+

Source: personal elaboration.

The analysis of the table above clearly shows that the area of knowledge and use of instruments overlap. Knowledge and use of improvement instruments concern, among others, management through processes, standardization, benchmarking, audits and instruments related to human capital. Solutions specific to the private sector, such as ISO 9001, Kaizen, FMEA, QFD and others, do not apply to the analyzed university. This state of affairs shows how important issues in the area of management quality are, which emphasize the value of improvement.

Despite the passage of time, more years are needed to change this state of affairs. Training is necessary for broadly understood university management staff to point out instruments and approaches that have been proven in the economy but are still unknown at universities. Therefore, awareness and the need for improvement and self-improvement should be aroused.

In order to deepen the issue of using instruments for improving university management, an analysis was carried out using the Value Stream Mapping instrument in the field of a research and teaching employee going on a national delegation. The analysis and the states before and after the use of the instrument are presented in figures 1 and 2.

This process defined 16 activities from the moment of obtaining information about the scientific conference to the moment of submitting all required documents to the relevant university units after returning from the conference. The possibilities of improving such a process are severely limited due to the fact that individual activities are divided into several units. These include: the employee's organizational unit - department, rector's office, dean's office, human resources department and bursary. The waste of time and material resources is also very clear. The head of the employee's organizational unit signs several times on various documents, confirming the same information.

Suggestions for improvements include:

1. Elimination of an employee's approach to the university rector through the manager unit and the dean for permission to use a private car for business purposes and to wait for the rector's decision. After reporting to the conference, the employee provides such information to the human resources department, which checks whether the employee has the appropriate authorization to drive a private car for business purposes and notifies the dean of the faculty and the rector about this fact. If the employee has passed the appropriate tests and received the above-mentioned authorizations, it becomes a waste to ask the university rector for permission to do so each time he/she travels. If the organizational unit that sends an employee to a conference has secured funds for his delegation, there is no basis for the university rector to refuse such a trip.
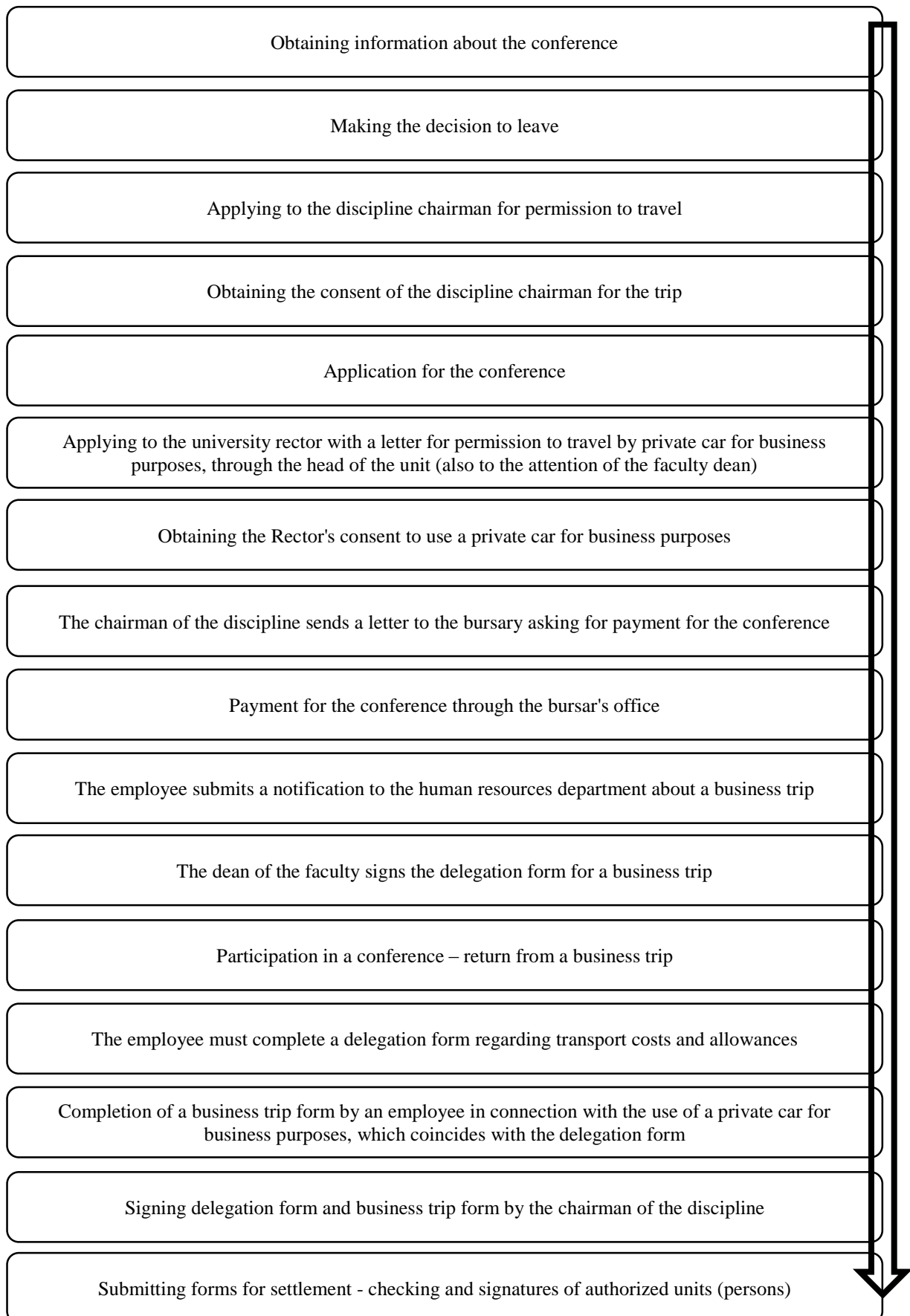
| Obtaining information about the conference |

| Making the decision to leave |

| Applying to the discipline chairman for permission to travel |

| Obtaining the consent of the discipline chairman for the trip |

| Application for the conference |

| Applying to the university rector with a letter for permission to travel by private car for business purposes, through the head of the unit (also to the attention of the faculty dean) |

| Obtaining the Rector's consent to use a private car for business purposes |

| The chairman of the discipline sends a letter to the bursary asking for payment for the conference |

| Payment for the conference through the bursar's office |

| The employee submits a notification to the human resources department about a business trip |

| The dean of the faculty signs the delegation form for a business trip |

| Participation in a conference – return from a business trip |

| The employee must complete a delegation form regarding transport costs and allowances |

| Completion of a business trip form by an employee in connection with the use of a private car for business purposes, which coincides with the delegation form |

| Signing delegation form and business trip form by the chairman of the discipline |

| Submitting forms for settlement - checking and signatures of authorized units (persons) |

Figure 1. Value Stream Mapping – delegation proces (before). Adapted from: "Lean Management na publicznych uczelniach akademickich" by M. Jakubiec (2021).
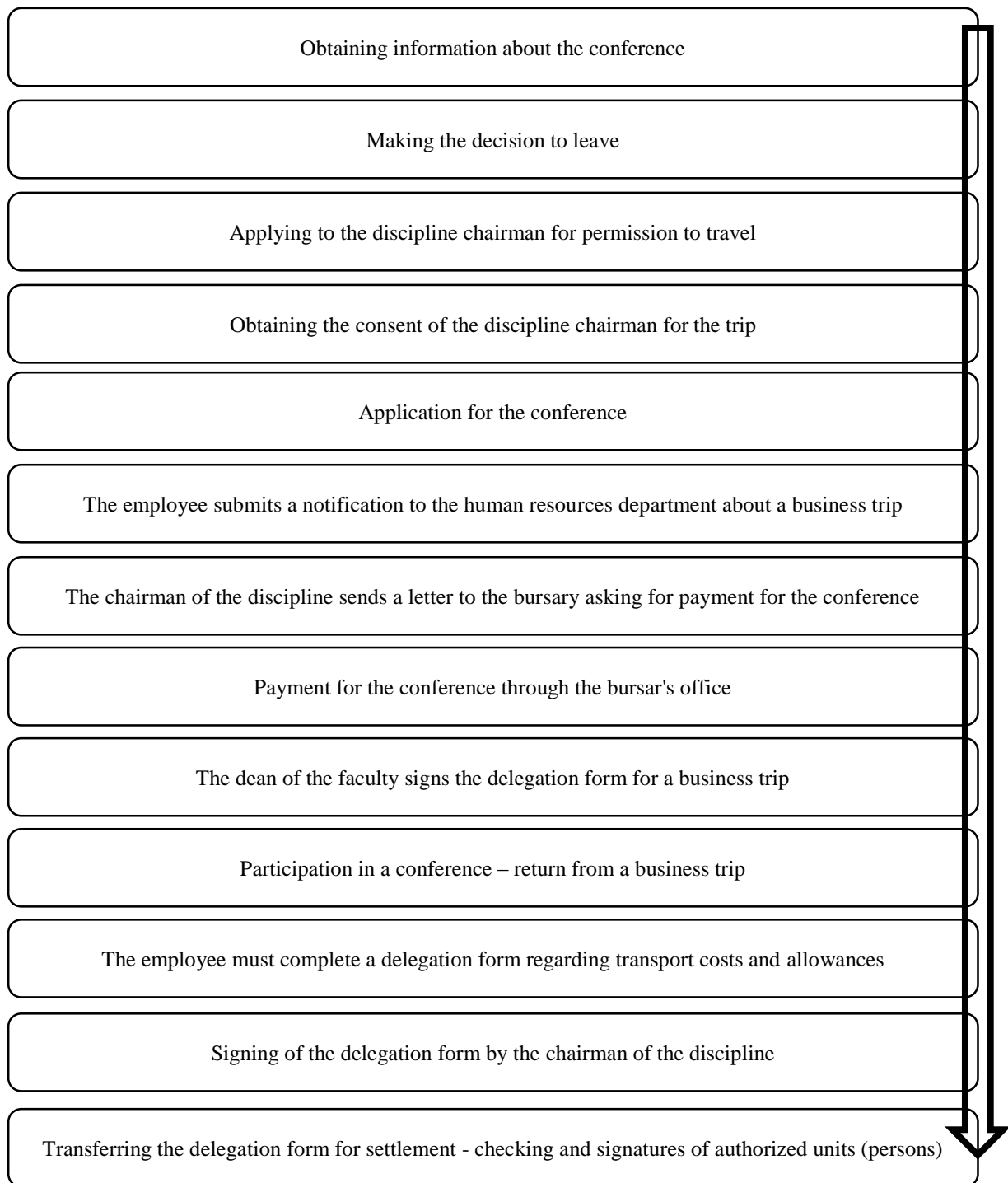
Obtaining information about the conference

Making the decision to leave

Applying to the discipline chairman for permission to travel

Obtaining the consent of the discipline chairman for the trip

Application for the conference

The employee submits a notification to the human resources department about a business trip

The chairman of the discipline sends a letter to the bursary asking for payment for the conference

Payment for the conference through the bursar's office

The dean of the faculty signs the delegation form for a business trip

Participation in a conference – return from a business trip

The employee must complete a delegation form regarding transport costs and allowances

Signing of the delegation form by the chairman of the discipline

Transferring the delegation form for settlement - checking and signatures of authorized units (persons)

Figure 2. Value Stream Mapping – delegation proces (after). Adapted from: "Lean Management na publicznych uczelniach akademickich" by M. Jakubiec (2021).

2. Elimination of double settlement and reporting of delegations in terms of transport costs and allowances. If there is a formal delegation in circulation that contains all information related to the trip, it is a waste to complete another document signed by the same authorized persons as for the delegation.

The idea of using the Value Stream Mapping instrument, in addition to presenting the instrument itself, was also intended to draw attention to the proper structure of functioning of entities such as universities. Organizing tasks as processes is important. Then the possibilities

for improvement are much greater, and it is not only about reducing the number of tasks or decision points, but about actual improvement bringing measurable benefits related to time, resource consumption and finances.

4. Summary

The topic discussed in the article is important in the context of university management. It concerns instruments that can be used to improve this management. The article was based on the example of the University of Bielsko-Biala. In the context of the topic discussed, the author would like to draw attention to a fragment of research he conducted on a group of public academic universities in Poland in 2019-2020. It concerns selected ways of improving the management of the analyzed universities. The assessment of the degree of application of the presented improvement methods was performed on a Likert scale (from 1 to 5). The results of the analysis are presented in figure 3.
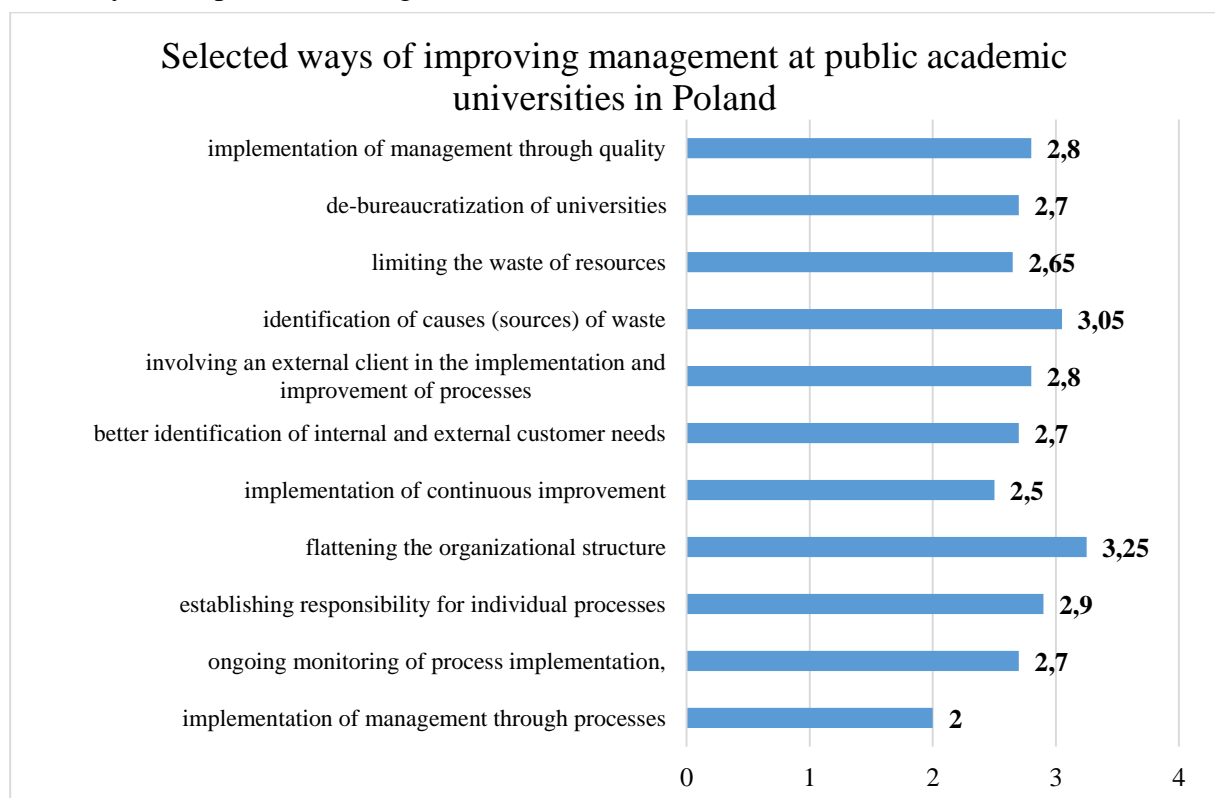

Figure 3. Selected ways of improving management at public academic universities in Poland. Adapted from: "Lean Management na publicznych uczelniach akademickich" by M. Jakubiec (2021).

As part of the research, the limit value of the average degree of application of the analyzed improvement methods was set at 3.0, which was considered sufficient. During the analysis, it turned out that only two improvement methods exceed this limit. These were: flattening the organizational structure (3.25) and identifying the causes (sources) of waste (3.05).

The remaining 9 analyzed improvement methods were considered to be of low use. These were: implementation of management through processes (2.0), implementation of continuous improvement (2.5), limiting the waste of resources (2.65), ongoing monitoring of process implementation (2.7), better identification of internal and external customer needs (2.7), de-bureaucratization of the university (2.7), including the external client in the implementation and improvement of processes (2.8), implementing management through quality (2.8) and establishing responsibility for individual processes (2.9).

The conclusion from the research was the need for further education in the field of management quality and improvement of management quality by undertaking appropriate improvement methods. The implementation of appropriate improvement methods by universities will contribute to more effective achievement of the assumed goals and university-wide organizational improvements.

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