Lessons from Covid-19: Toward the Conceptual Model of University Management During Pandemic

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Abstract:

Purpose: This article investigates some ongoing activities undertaken by selected universities in Poland having to rapidly move their teaching online during the early stages of the coronavirus pandemic. Based on their analysis a conceptual model of university management during the Covid-19 pandemic was proposed.

Design/Methodology/Approach: This paper presents four case studies of various universities n Poland (prepared based on interviews with employees of this universities) showing their strategies in response to the unique situation initiated by the Covid-19 pandemic.

Findings: The conclusions drawn from these cases were used to propose a readiness conceptual model of university management during the Covid 19 pandemic. This model takes into account two variables, which, according to the authors of the article, are key, i.e., the time to change and the assessment of adaptation to new conditions. Its effect is an indication of possible, emerging 4 strategies, the galloping adaptation strategy, the competitive strategy, the succumbing strategy and the rolling adaptation strategy.

Practical implications: The proposed model can form the basis for universities to systematically assess their readiness to face a future pandemic and allow them to be better prepare for the emerging new standard after Covid-19.

Originality value: The article presents an original proposal for a university management model in the Covid-19 pandemic. The authors present four types of possible strategies, universities have taken in response to the pandemic, including criteria of their choice.

Keywords: Conceptual model, university management, Covid-19 pandemic.

JEL classification: I21, I23, M00.

Paper Type: Research study.

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1. Introduction

The WHO has declared Covid-19 as a pandemic that has posed a contemporary threat to humanity. This pandemic has created significant challenges among others for the higher education community and has forced global shutdown of several activities, including educational activities. Faced with these challenges, universities faced an enormous challenge related to taking a number of actions aimed at smooth transition from stationary education to online teaching and ensuring the fluidity of not only the education process, but also the functioning of the university as a whole.

This paper presents four case studies of various universities in Poland, showing their strategies in response to the unique situation initiated by the Covid-19 pandemic. The conclusions drawn from these cases were used to propose a readiness conceptual model of university management during the Covid 19 pandemic. This model takes into account two variables, which, according to the authors of the article, are key, i.e., the time to change and the assessment of adaptation to new conditions. Its effect is an indication of possible, emerging 4 strategies: the galloping adaptation strategy, the competitive strategy, the succumbing strategy and the rolling adaptation strategy. The proposed model can form the basis for universities to systematically assess their readiness to face a future pandemic and allow them to be better prepare for the emerging new standard after Covid-19.

2. Theory

The outbreak of the Covid-19 pandemic has forced universities and other academic institutions to adapt quickly to sudden and life-threatening situations. This resulted in the transition to online education, developed so far as an alternative and supportive form of teaching and learning. Online learning is the use of internet and some other important technologies to develop materials for educational purposes, instructional delivery and management of program (Fry, 2001; Khan *et al.,* 2020). Online education can be divided into two types, namely asynchronous and synchronous online learning, are majorly compared.

However for online learning to be effective and efficient, instructors, organizations and institutions must have comprehensive understanding of its benefits and limitations (Hrastinski, 2008) Amiti (2020) notes that during the Covid-19 pandemic, also the hybrid type gained popularity as a combination of synchronous and asynchronous online learning methods. Regardless of the type of online education, however, everyone agrees that the Covid-19 pandemic has accelerated the digital transformation of higher education. As a result of the crisis, novelties in higher education that would typically take many years because of differing managerial regulations, were presented quickly within limited number of days or weeks (Strielkowski, 2020). Analyzing the activities undertaken by various universities, Hodges *et al.* (2020) differentiated adequately planned online learning experiences from courses presented online as response to pandemic crisis and

concluded that, pandemic online education can be defined as "emergency remote teaching" because the latter is in contrast with quality or effective online learning. In the opinion of these (but also others) researchers effective online education consists of online teaching and learning, boosting of several research works, principles, prototypes, theories, ethics and appraisal of benchmark concentrations on quality online course design, teaching and learning (Vlachopoulos, 2020; Bozkurt and Sharma, 2020; Hodges *et al.,* 2020).

This large-scale transition to online learning has resulted in valuable learning experiences and implications, some of which probably deserve to be preserved and used in the future. However, it also resulted in a number of problems and difficulties, because no one (also university managers, teachers and students) was prepared for this process or its scale. Consequently, university managers rushed to transform the curriculum into an online environment, bearing in mind the technology and tools used, and not necessarily the competences and abilities to use the technology. Undoubtedly, for universities it was a test of their organizational efficiency (Wu, 2020) all the more difficult as it was known from the very beginning that universities were not prepared for the upcoming digital era of learning (Veletsianos and Houlden, 2020; Webb *et al.,* 2021; Ali, 2020). By the pandemic, universities were forced to quickly implement various strategies, in which important factors were, reaction time and post factum assessment of adaptation to the changes taking place.

Therefore, the obvious, still topical and main question, which the authors of the article are trying to answer, is how are universities responding to Covid-19 pandemic? Therefore, this article presents four selected case studies of universities from Poland during the Covid-19 pandemic, for which data was collected based on focus research on a group of employees and students of these four Polish universities (two focus group interviews-each with eight respondents-were conducted, separately for employees and students) and the analysis of their internal documents (such as, internal ordinances of rectors, internal regulations, guidelines for education in the case of Covid-19 pandemic and guidelines on how to regulate work during the Covid-19 pandemic). Based on the collected data a conceptual model of university management during the Covid-19 pandemic was formulated.

However, this model provides only a certain conceptual framework that requires further analysis, but it allows for systematically evaluate the key components of university management during the Covid-19 pandemic and allows to identify strengths and weaknesses of the actions taken. Its application, if only at the conceptual level, may allow for It would make it possible for them better prepare for post-Covid new normal, which could potentially last for some time come.

3. Data and Methods

Below are presented four case studies, which were developed based on the results of research collected during two focus group interviews, conducted in two groups of

respondents - university employees and students of these universities. These interviews were conducted online (due to the epidemiological situation) and were attended by 2 employees and 2 students from each university. The aim of these studies was to gain information on the organization of the university's work (in terms of education, tasks supporting the educational process and other tasks ensuring the continuity of the university's work) both in relation to the early stage of the Covid-19 pandemic and as well as to the subsequent actions taken in response to the pandemic situation.

1st case study: University 1 (U1) is a non-public university, which educates over 14,000 students. Its offer includes first-cycle (bachelor's and engineering), second-cycle (master's) studies, post-graduate studies and doctoral studies, as well as various courses and training. It is one of the most frequently selected non-public universities.

The appearance of the pandemic in the first period forced a discussion about the necessity to conduct online classes. The university management considered two variants. The first variant was to conduct classes in a hybrid mode. The second varian - classes conducted remotely, was to be the target option, but it required appropriate organizational preparation of the university and employees. One of the challenges related to the first option was the need to reorganize the timetable, resulting from the division of groups into smaller work teams, so that education could be sanitary safty. This required changes to the schedule of activities, adaptation of classrooms, provision of sanitary protection measures and information on compliance with the sanitary regime. As a result of the dynamically changing situation, the regulations of the Ministry of Science and Higher Education (MNiSW) regarding the obligation to conduct online classes and the expectations of employees, the university management has introduced a remote teaching system.

This system consisted in the development of strict guidelines in the form and manner of conducting classes and the selection of tools for remote communication with students. The classes were to be conducted synchronously. Initially, apart from the Moodle e-learning platform, the university made it possible for the lecturers to choose communication tools (e.g., via Skype).

However, the weaknesses of the tools used and the need to unify the forms of conducting classes were quickly noticed. The university management decided to use the Microsoft 360 platform, including MS Teams. As a consequence of the actions taken, numerous employee training courses were conducted initially by internal university employees, and later by a specialized external company. Participation in the trainings was obligatory. The trainings were conducted at various stages of advancement, which allowed each employee to acquire and expand qualifications in the use of MS Teams. Currently, these trainings are conducted every semester. They are also available as a recording, allowing you to play them back at any time. Similar trainings were organized for students.

The university was able to adapt relatively quickly to new environmental conditions. Particularly noteworthy is good communication (numerous meetings with employees, dean's orders, which clearly specified the rules and presented guidelines for changing the form of education). The university also provided ongoing online support in the form of the so-called IT staff on duty, who could be contacted during current technical problems resulting from the use of both the Moodle and MS Teams platforms.

2nd case study: University 2 (U2) is a technical university, one of the leading and largest public universities in Poland. It educates about 25,000 students at 13 faculties. Its offer includes first-cycle (bachelor's and engineering), second-cycle (master's) studies, post-graduate studies and doctoral studies.

The university is characterized by an extensive organizational structure and a highly centralized management method. All decisions are formalized and mainly take the form of the rector's orders. Initially, the pandemic period presented some surprise to university managers, which resulted in that, each faculty independently developed a strategy for coping with the effects of the pandemic. Its implementation could not, however, be contrary to generally accepted guidelines at the central level of university. The consequence of this was, in the initial period, the lack of information on the final, adopted form of teaching (remote, hybrid or traditional) and the IT tools used. Deans could not announce their ordinances without guidance from the university managres, which came relatively late and the great autonomy of the faculties resulted in the lack of uniform tools used for online learning in the first semester of the pandemic period.

The result was a great freedom in the way of conducting classes (not always in the synchronous mode, although this was recommended), or the choice of tools for communicating with students. Strong centralization in decision-making and an extensive organizational structure as well as high formalization of procedures resulted in delays in the flow of information, both between the central university managers - faculties, and faculties - employees and students. The university had to undergo a reorganization in terms of conducting not only classes, but also the university's administrative activities. In order to ensure the sanitary regime, rotation work was adopted for administrative employees. In the following months of the pandemic, a unified method of conducting classes and the selection of tools for their implementation was adopted (to choose from, MS Teams, Zoom supported by the Moodle e-learning platform).

The obligation to conduct classes in a synchronous mode was also introduced. Procedures on the line of teachers - administrative worker were simplified in the field of document circulation, preparation of reports, including reports on the course of conducting classes, the method of preparing and transferring protocols and other documentation resulting from the teaching process. The university also provided support to employees regarding the use of tools for conducting classes through

numerous trainings (it was not obligatory) as well as materials available in the extranet. It also provided access to ICT infrastructure. All forms of direct interpersonal contacts were kept to a minimum, ensuring remote access to meetings.

The university, despite its extensive structure and formalized procedures, has responded satisfactorily to the conditions of the pandemic. Although in the initial period, the reaction of the university in the opinion of its students and some employees was somewhat delayed. The increasing range of the pandemic meant that the hybrid mode was completely abandoned, allowing only remote mode to be conducted.

3rd case study: University 3 (U3) is an interdisciplinary university educating both in the field of exact sciences, as well as social and humanities. Is one of the largest public universities in Poland, which educates about 25,000 students in at 10 faculties. Its offer includes first-cycle (bachelor's and engineering), second-cycle (master's) studies, post-graduate studies and doctoral studies.

Due to its size, the university is characterized by an extensive administrative structure and a high degree of centralization in terms of decision-making, which mainly take the form of the rector's orders. Initially, the pandemic period was quite a surprise to managers in terms of how to respond to the pandemic situation.

Therefore, teaching was suspended for two weeks. After this period, a special Covid team was appointed, the aim of which was to work out solutions both in the field of teaching organization and in the field of administrative solutions aimed at ensuring the continuity of the university's work. All faculties had to comply with the guidelines of the central authorities. As a result of the regulations of the MNiSW egarding the obligation to conduct classes remotely, initially, classes were conducted online (mostly asynchronously) mainly on the basis of the Moodle e-learning platform, supported by MS Teams and Zoom. Other tools supporting the implementation of the didactic process were also allowed, leaving the decision of the choice to the academic teachers.

The result of this was a great freedom in the way of conducting classes and the initial dissatisfaction of both the teachers and students. In response to this crisis, the tools for conducting online classes were standardized, recommending the use of MS Teams supported by the Moodle e-learning platform, with the reservation that they are to be conducted in a synchronous mode. In addition, classes that should be carried out stationary were selected due to the need to secure the achievement of educational results. Guidelines were developed to allow for the implementation of these classes - class groups were reduced, temperature measurement before entering the classes was introduced, necessary protective measures were provided.

Most of the administrative employees were also assigned to work remotely, with the exception of employees providing services to those faculties where classes are

conducted in a hybrid form. University organized training for employees relatively late on the use of tools for conducting classes, which had a very diverse form. Tutorials were created, on-going IT support for employees and students was provided, guidelines for online learning and good practices were developed. As part of the MS Teams platform, groups were created devoted to various practical issues, e.g. how to exam remotely or how to deal with remote technology. Similar forms of support for students were organized by the Student Government.

Currently, classes are conducted in a hybrid mode, which means that all lectures and ome paty of classes are conducted remotely, while classes that require the use of laboratory equipment are conducted stationary, in compliance with the sanitary regime.

4th case study: University 4 (U4) is a non-public university with a business profile, educating in the field of economic, humanities and technical sciences, which educates about 800 students in 5 different faculties. Its offer includes first-cycle (bachelor's and engineering), second-cycle (master's) studies as well as post-graduate and MBA studies.

Due to its small size, the university is characterized by a flexible administrative structure and a low degree of centralization in terms of decision-making. Even so, the pandemic period initially came as a surprise to managers. However, the guidelines of the MNiSW forced the necessity to conduct online classes, which was implemented after a two-week period of suspension of classes. At that time, the university managers and the Career Office prepared training for employees and students, respectively, in the use of remote learning tools, indicating MS Teams supported by an internal e-learning platform as obligatory. These trainings were compulsory. All classes were held in a synchronous mode. Administrative staff was also assigned to partially work remotely. A online dean's office was launched for students, based on the MS Teams platform.

Due to the fact that the university is focused on learning through practice, and workshop and internship classes account for about 70% of the didactic program, webinars conducted by specialists from industries covering the education profile were prepared for students on an ongoing basis. These accessible webinars were organized as closed meetings, accessible only to university students, which allowed for maintaining interaction with the students.

Currently, classes at the university are conducted in a hybrid manner, which means that classes for first and second-cycle studies are conducted remotely, and classes at postgraduate and MBA studies are partly conducted remotely and partly stationary, in compliance with the sanitary regime. In addition, the university implements new programs and applications aimed at improving the distance learning process. The efforts of universities to maintain contact and exchange of information with students,

including in the form of weekly meetings between students and university managers, are noteworthy.

4. Results

Table 1 shows the conceptual model of university management during the Covid-19 pandemic, developed on the basis of focus studies conducted separately on both the staff and student groups.

The first criterion of the model is the time to react to changes resulting from the universities' adaptation to the new restrictions and the requirements resulting from the Covid-19 pandemic. The second criterion is the assessment of adaptation to new requirements from the perspective of the university's stakeholders. It was assumed that such stakeholders are university employees and students. In the discussed model, a qualitative scale was adopted.

Table 1. *The conceptual model of university management during the Covid 19 pandemic*

TIME TO REACT TO CHANGE	ASSESSMENT OF ADAPTATION TO NEW REQUIREMENTS	
	LOW	HIGH
FAST	galloping adaptation strategy	competitive strategy
LONG	the strategy of yielding	rolling adaptation strategy

Source: Own study.

As shown in Table 1, four types of strategies of universities' response to the Covid-19 pandemic were distinguished. The first strategy of of yielding characterizes universities that needed a longer time to prepare for changes, and the assessment of their introduction, from the perspective of entities assessing the surveyed employees and students) was high.

The second strategy - rolling, crawling adaptation - refers to universities which, according to the respondents, were able to skillfully adapt to new requirements, but the reaction time to change was a bit late. The third strategy is galloping adaptation - it concerns universities that reacted quickly to the change, and the quality of the introduced changes can be assessed as low. The last strategy - competitive characterizes those universities that were able to adapt to the new requirements of the pandemic in a short time, while maintaining a high assessment of the quality of the introduced changes.

The consequence of the choice and implementation of the strategy adopted by universities is the selection of specific actions (Table 2) that may be helpful for

university management in managing a university in conditions of constant uncertainty.

Table 2. Proposed activities related to the adopted university strategy in the conditions of the Covid-19 pandemic

the strategy of yielding	rolling adaptation strategy	galloping adaptation strategy	competitive strategy
- Assess the internal potential of the university - Minimize the threats from the environment - Analysis of the university's weakness in terms of its adaptation to changes in the university's environment - Improve the flow of information on the line: university-employee / student - Provide support in the field of remote education (access to IT tools, training) - Develop the procedures for the functioning of universities in the conditions of a pandemic	- Improve the flow of information - Maintain the internal potential for introducing changes - Monitor the university's reaction time to introduced changes - Modify internal procedures to improve the flow of information - Provide internal support to employees in terms of accessing and using tools for remote communication	- Minimize threats from the university environment - Monitor the quality of introduced changes from the perspective of students and employees - Ongoing analysis of the internal needs of stakeholders - Providing support to employees in terms of access to information and ICT infrastructure - Ensuring internal supervision over the quality of the implemented procedures	- Maintain the current way of managing change in the university - Use strengths to overcome threats. - Monitor the opportunities coming from the environment - Maintain remote education support to employees - Maintain the current flow of information and the degree of formalization of internal procedures - Conduct ongoing evaluation of the introduced changes from the perspective of employees and students

Source: Own study.

As a result of the focus research conducted on a group of students and employees, it was possible to obtain opinions on the adaptation of universities to the new pandemic conditions, as well as opinions of participants in the study on the response time of a university to change. The consequence of these studies was the placement of individual universities in the model within the adopted criteria (Table 3).

Table 3. The ranking of universities subject to analysis in the university management model during the Covid-19 pandemic

TIME TO REACT TO CHANGE	ASSESSMENT OF ADAPTATION TO NEW REQUIREMENTS	
	LOW	HIGH
FAST	---	U1
LONG	U2, U3	U4

Source: Own study.

As shown in Table 3, among the analyzed universities, the universities U2 and U3 adopted a strategy of yielding. U1 chose a competitive strategy, and U4 chose a

rolling adaptation strategy. The above-presented positioning of universities in the proposed model shows some dependencies resulting from the type of university. The long reaction time to change and low assessment of adaptation to new requirements characterize public universities, which were the subject of this analysis. These universities are characterized by a similar extensive organizational structure or organizational size (number of students, employees). In the case of non-public universities that were the subject of the discussed case study, there are no clear homogeneous features in terms of specificity or organizational size. Undoubtedly, however, they are more focused on ensuring student satisfaction as a key group of their stakeholders.

5. Conclusion

The Covid-19 pandemic has forced changes in the way universities operate. These changes implied the need to adapt to completely new conditions that universities had never encountered before. Adapting to the new environment required a change in the management of a university, but also a significant reorganization of both the education process itself and the existing administrative processes. Due to the need for sudden adaptation, not all universities managed to change their current operating model in a short time. Some of them were more flexible to change, others the reorganization process was more complex and lengthy. The assessment of these changes was also inconclusive from the evaluators' perspective.

The article presents case studies based on four universities. Some actions that universities had to take were analyzed and the process of their adaptation to new pandemic conditions was characterized. Attention was paid to the specificity of the university, its complexity and character. As a result of the empirical research conducted in the form of focus group interviews, a conceptual model of university management during the Covid-19 pandemic was proposed, including four possible types of strategies in response to new conditions resulting from changes resulting from the pandemic.

The authors of the article are aware of the limitations resulting from the use of the proposed model. This is especially true of the boundaries between individual strategies that are fluid. The proposed model is based on the results of focus studies conducted on two groups of stakeholders (university students and employees), which should be supplemented at a later stage with quantitative questionnaires, which would allow for the precise classification of the studied entities within the framework of the strategy defined in the model.

However, the authors of the article believe that regardless of the type of strategy adopted, universities should define a list of opportunities, threats and their strengths and weaknesses. They should also define the importance of individual factors in terms of their impact on the organization's development opportunities and its adaptation to rapidly changing environmental conditions.

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