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PROJECT MANAGEMENT MODEL FOR IMPLEMENTATION OF BUDGETING IN THE UNIVERSITY - CASE STUDY

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ABSTRACT

As far as budgeting process itself and the concept of project management are relatively accurately described in the literature, there is no research concerning the implementation of budgeting according to the requirements of project management. This paper is a case study of the implementation of budgeting in the university and is intended to fill this gap and become an inspiration for theory and practitioners alike, involved in the management of projects in the area of finance.

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INTRODUCTION

Poland has over 1.4 million students. University campuses and other research-related institutions employ approximately 114,000 researchers. Students and researchers constitute a significant part of Polish society and universities and science have a key impact on the socio-economic development of the country ("Polskie uczelnie i nauka 2007-2015. Podsumowanie działań Ministerstwa Nauki i Szkolnictwa Wyższego", 2015). Objectives, which were stated at the universities in the coming years include adjustment of the Polish research standards to international standards, raising the quality of education, internationalisation of education and science, cooperation with the labour market and the development of innovation. The abolition of the ministry's list of study tracks and strengthening of the cooperation between socio-environment and business allowed the introduction of training more suited to the labour market

In fact, it is important that the above processes can provide a flexible and rapid response to emerging changes in the environment and ensure the effectiveness of costs related to strategic tasks.

To ensure this, it is necessary to accelerate the process of collecting and sharing of management information. At the same time, business management approach and methods should be moved to universities. School and, in particular, the school of management is the ideal place to define, deploy, and test management concepts, which successfully work in business. Universities, in addition to the transfer of knowledge have other duties – organisation of conferences, conduct research, manage current projects (operational – e.g. repairs). All of these: the efficient knowledge management system about resources, their financial allocation, changes in the budget and allocation capabilities seems to be critical from the point of view of the business.

This article was based on the research literature and case study of the implementation of the system of budgeting in the non-public higher education. The implementation took place in 2016 and the underlying project lasted for 3 months. In the course of the implementation, budgeting post-deployment processes were post-deployment recommendations and follow-ups were defined.

MANAGEMENT OF KNOWLEDGE AND NON-KNOWLEDGE ABOUT UNIVERSITIES

Universities have the ability to devise their educational offer gradually. Increasingly, we face challenges concerning the extent to which the resources should be involved in teaching, research or business. However, this is not the end of the changes in higher education. In relation to the demographic problems and open borders to students' trips abroad, changes in research projects and changes in the labour market, universities must adapt to the environment management strategy. A good strategy is one that allows one to be a leader and create a real environment, rather than only to act reactively based on signals from the environment.

The lack of detailed analyses in real time makes this type of decisions very difficult to take, and the lack of professional guidance in the area of objectives, which means predefined criteria, can lead to making decisions regarding the involvement of resources in specific projects to be incorrect to a greater extent than it would be in the case of support tool.

Knowledge management about university allows for faster and more flexible response to market signals. It also allows for the current adjustments and adaptation strategies and moving funds faster from less to more efficient investments. The key seems to be especially the case of smaller universities with limited budgets and funding opportunities from the scientific grants, therefore increasingly, both public (Ćwiąkalska-Małysz, 2007, Pisarska, 2013, Urbanek 2015) and private (Jańczyk-Strzała, 2014) universities deploy budgeting systems.

Due to the internationalisation of research there is a need for precise operationalisation of this purpose. It depends on the level to which a university is prepared to take and the implementation of international scientific research. Implementation is determined by resources the university has (mainly dependent on the budget allocated to research) and organisational efficiency of university's units (...). University financial management, leading a variety of overlapping activities and budgeting millions, must be carried out in a professional manner, using relevant tools, including integrated information systems regarding risks ("Raport Końcowy - Modele zarządzania uczelniami

w Polsce", 2010). The authors of the report also indicate the need to carry out the budget process from the bottom-up, in a decentralised manner.

Implementation of tools for planning and monitoring of the implementation of the budget is the first step to enable knowledge management about university finances in a much more advanced way than that which can be made only based on the data of the financial and accounting systems. The ability to analyse more custom, personalised reports allows for better response and budgeting in a way that is based on clear rules.

PROJECT MANAGEMENT

Project management as a managerial concept is developed successfully in a methodical manner since the beginning of the 20th century. The first projects described in the literature concerned the rule of the great projects. The first methodology can be found based on the experience of projects mainly in the sector of research and the military. As a matter of interest, we can add that one of the first concepts beyond the well-known Prince2 and PMI was developed by the NASA ("Space Fight Program and Project Management Handbook", 2014) to carry out projects related to space missions. High costs, uncertainty, complexity and innovativeness of projects meant that it was necessary to work out an approach that would minimise the risk and increase the chance of success.

PROJECT MANAGEMENT METHOD OF IMPLEMENTING BUDGETING – ISSUES AND CHALLENGES

This case study concerns the implementation of budgeting system in the non-public university for a 3-month period in 2016. The project involved about 20 people with different levels of management position and external consultants. Involved stakeholders had the following functional roles: university management, project manager, external consultants, accounting, IT Department, employers responsible for the budgets of the individual functional units and people from the support department. What was important at the beginning was formulating a clear definition of the roles and assigning responsibilities so that everyone would know who was responsible for the individual functional areas.

The project was innovative and implemented for the first time. Therefore, in order to minimise the risk, project management tools were required. The problem arose in the collision of the project management, which is inherently flexible, and operations and process management concept, which is aimed to strike a balance. Additional limitations resulted from regulatory and accounting rules e.g. the closure of financial year. Additional problems arose during the transition of 12-month fiscal year to a 15-month fiscal year just during the year of implementation, which changed the budget models and established a need to create them in two different versions.

In addition to budgeting, it was important to prepare budgets and establish them as the basis supporting data collection and not only a tool to manage financial flows but also to monitor the defined strategic indicators - KPI (Key Performance Indicators), which were the starting points of the implementation.

The list of indicators was defined during consultations with the relevant experts. Often it was necessary to insert additional fields in the database, which were not associated with the budgeting process but were important from a KPI perspective, which aroused resistance viewed as too much information input.

The additional challenge was a simultaneous implementation of management projects concepts. To this end, during budgeting project implementation elements of a new model were used while at the same time project management data and metrics were used. The difficulty in defining the concept of management indicators was lied in the deployment of project managed by project methods, and, on the other hand, as budgeting was a process, we had to rethink both the project management methods and management process itself.

In addition, it was necessary to create two parallel project schedules – the project schedule for implementation of budgeting and a recurring schedule of budgeting itself. We also need to note that these activities were the responsibility of different roles (this may be the same person if he/she has dual experience in project management and budgeting). Thus, we faced colliding issues of the project budgets and budgeting of projects, which sometimes could cause difficulties.

All these factors contributed to a high degree of innovation and the complexity of the project. Due to this, it was important to elaborate a model that would take into account the often-conflicting requirements of all stakeholder groups. It was also important to simultaneously deal with project management to manage at all its levels – the project management level, budgeting level, and business transformation level (Orzechowski, 2009).

As in many deployments of organisational changes, in this case as well we did not avoid essential issues. In the first stage of defining project scope, a question was raised about vision, concept and objectives of the project. On the one hand, the need for business boiled down to budgeting system only, but there were also ideas to use the occasion to implement a system to manage KPIs and university relationships with the environmental management.

Under the circumstances, it was decided not to define the project scope too widely – on the one hand, it is useful to keep in mind the future implementation of KPIs, but on the other hand, it is not the same as the implementation of ERP or comprehensive computerisation. It was important to take a smooth and quick action and avoid carrying out a major project in which ultimately nothing works because everyone would like to combine everything with everything. In this case, elements of iterative model of project management were applied, which allowed to deploy part of the planned functionality, followed by testing and collecting feedback and then proceeding to the next stage of deployment. It was considered that it was better to implement management tools in stages, learning from the mistakes and bearing in mind that resources were limited. Finally, the implementation of system to monitor relations with the environment and the KPIs was left to the implementation at a later stage.

The next challenge was the flow of information between functional departments within the framework of the project, as not all people knew one another initially. In the context of risk management, the likely problem was defined and it was named "resistance against change." So far, before budgeting implementation, the budgeting pro-

cess was conducted in Excel and any changes in the format and methods of budgeting could make employees are not willing to try something new.

Taking into account these challenges, as well as the educational environment, the project was viewed as innovative also by consultants, as the universities have their own specificities concerning the financial management, depending on funding activities partly from the national budget and partly from own proceeds, therefore, project management is guided by the principle of minimising risks.

In summary – correct model of project management budget implementation should be driven by the following success criteria:

- Appropriate definition of objectives of the project and their communication to all involved stakeholders.
- Support from the sponsor of the project and simultaneously such definition of tolerance levels for the project and the selection of the competence of persons carrying out the project that will ensure a possible escalation of only important matters to higher management levels.
- Cooperation of the project stakeholders and a proper communication of all parties involved to establish cooperation procedures and their compliance.
- Interdisciplinary project team. The team should include specialists in finance, accounting, project management, KPI, strategic management, system analysts and specialists in information technology. The team should form a Committee on Budgets (Ossowski, 2010). The number of people is irrelevant - it is important that all project roles have been filled and one person may hold more than one role if he/she has specific competences,
- Layouts of reports should be harmonised as far as possible to the budgeting at the level of the entire organisation. This not means to try to put the data from the different functional departments on the same budgetary layouts without limitations, but on the quest for maximum uniformity. If possible, the project should include data visualisation, portals and visual reports in the form of charts, instead of data in tables,
- Simultaneously, the project of major organisational changes (here: implementation of budgeting and project management) – it is important to upgrade the organisational structure. Organisational structure is understood in two ways - as a structure of the budgetary authorities (who define the budgets, create budgets, enters the data and read reports) and the organisational structure (depending on the authority and responsibilities).
- Project schedule should be enforceable, and roles and responsibilities clearly defined and assigned to specific individuals. In the project it is essential to continuously monitor the project, hold project meetings and conduct a cyclical review of the risks (Young's study as citied in Walczak, 2010)
- In parallel, it is worth to update the chart of accounts and financial and accounting processes. Within the definition of KPI, it should be considered to select key processes and cost centres to budgeting. (Organization can't budget KPIs for every cost in every cost centre, as too many details make the image of organization illegible).
- Updates should be also made to the chart of accounts and financial and accounting processes. Within the definition of KPI, key processes and cost centres should be selected (if it is impossible to budget all costs for all cost centres, as too much detail makes the organisation's image illegible)

In the quoted article, T. Young also points to the need to tackle problems at the highest level. The author believes, however, that the accurately selected project team with the relevant expertise may be empowered to deal with emerging problems on the low level. People must be given a wide range of independence in accessing data and making decisions within the so-called project tolerance, because self-reliance translates directly into lower management costs. It might be beneficial also to establish a project role, "Change Manager", who will be responsible for analysis and approving changes in the project in the name of Project Manager.

BUDGETING DEPLOYMENT MODEL

In the first stage of the project it was important to get to know the members of the project team, as they did not work together before the project. Mutual understanding and gaining trust is an important factor in determining the success of the project because trust between team members working in the project has a positive effect on the sharing of knowledge, which in turn allows for greater innovation (Maurer, 2010). In addition, it should be noted that the higher the level of integration and an intuitive confidence the higher the level of success of the project (Pinto, 2010). Co-workers should be open to each other, not be afraid to ask each other for notes in case of making mistakes because culture based on fear does not create an atmosphere in which you can share your doubts and problems. Many organisations are trying to implement management systems, ignoring the social structures, implement tools as if organisations and processes were constructed from components that exist outside the context of society. In addition to proper project management, appropriate implementation methods of project management is important and to adapt project management standards to the organisation. This is the first such voice that was used in research to find one common model that fits all companies (Jackson, Klobas, 2008). From the cited paper stems also the need of proper selection methods – standard project management methodologies are no longer appropriate to every project, hence the important role of customisation of methodologies, which best fits the organisation

Based on the research literature and experience with the case study project, the author proposes the following budgeting model implementation in a university:

- Analysis of the mission and strategic goals of the organisation.
- Analysis of external and internal stakeholders and their information needs for monitoring strategy.
  Each of the stakeholders will have different information needs and will require a different level of report aggregation. Managers of functional units will need reports of each activity, but at a higher level - the reporting will not need to be detailed, and there is a need to present data in an aggregated way.
- Analysis of other KPIs and management's information needed to monitor implementation of the objectives.
  It is important in this case to carefully check whether the data from the system of budgeting are not part of management indicators, which are found in other systems, and whether it is necessary to connect to other databases.
- Analysis of possibilities to provide the information needed.

We analysed system capabilities, financial perspectives and carried out a cost-to-benefit analysis. In this case, determination had to be made whether the benefits of presenting and analysing data are able to validate the potential costs. This applies both to internal data obtained from other systems, and the data obtained from outside the organisation.

- Redefine or update indicators necessary to achieve university objectives.
  If data that we want to get may be too expensive, we should consider updating or/and redefining strategic indicators. Organisation must ask itself the question whether the same strategic objectives can be measured differently
- An indication of the priority of budgeting deployment project in the portfolio of strategic projects.
  Project budgeting priorities must be set, as well as an acceptable level of risk and the specific monitoring tools, if they are required. After the organisation has defined the scope of the project, the responsible project manager should be appointed, resources allocated and key milestones marked
- Cooperation among stakeholders and constant communication within an iterative model after the completion of the subsequent stages of the task.
  It is suggested that with the progress of the project, to provide correct functionality - along with instructions for beta testing for designated stakeholders who will be involved in the implementation of the test – to train all employees engaged with the project. After picking up the project also could be necessary to collect comments to consider any changes.
- Communication of progress to the participants not involved directly in the implementation of the project and the training employers about the new budgeting tools.
  After testing the layouts and budgeting processes by key users, results should be communicated to the other people involved in the budget process and training offered to users who will have to work using a new approach. Do not forget about stakeholders who will not directly work on budgeting but whose work affects the budgeting process.
- Review and updating of the model of budgeting and further testing.
  If changes are necessary, a decision must be made whether to deploy them on the fly, or move them to the budgeting process for the next fiscal year.
- Announcement of the end of the project.
  Communicating project results to all stakeholders involved in the budget process, the sponsor of the project, involved managers of functional units, as well as other stakeholders and providing processes and budget system to be maintained to responsible persons.
- Collection of data and final reports of the project. Upgrading the library of "lessons learned" and the creation of proposals and recommendations for the future.

The project should end with a final report, in which the summary and recommendations for the future used for similar deployments play an important role, or an update of the implementation, as a key element in the management of uncertainties is the reflexive learning, which allows for flexibility and speed in decision-making regarding the

choice of alternative measures in response to situations (Perminova, Gustafsson, & Wikstrom, 2008).

6. CONCLUSIONS

As is apparent from the foregoing deliberation, it is essential to establish a close cooperation among stakeholders and solving problems on a regular basis. A map of interaction among stakeholders should be established, as well as the commitment of all stakeholders from the very beginning of the project. A clear presentation of the objectives of the project and indication of the benefits should be presented. This will help in the process of dealing with resistance against change, and will allow focusing on the budgeting model, which makes it easier to troubleshoot.

There is no universal set of processes and budgetary indicators for all universities. A lot depends on the resources of the university, how to manage, readiness for change and organisational culture. Even in the case of experienced consultants, we are dealing with new elements of deployment, which may constitute risk factors. To minimise the risk, the use of experience from previous deployments should be encouraged– as important lessons learned and continuous improvement.

An important role is played by the support of the management, which projects that the project is essential and will be monitored, and that basing on its implementation in the future will be defined and evaluated the evaluation criteria for employees.

Finally, budgeting has become an increasingly common tool of actively supporting the process of managing universities in Poland. The budgets are used in the implementation of the processes and activities in functional departments in universities and also for customer - oriented projects in project management university structures. Without the awareness of both the authorities of the university and employers, what does in fact mean budgeting, and what are its advantages and disadvantages, there is a risk that it will be seen as another element of bureaucracy (Janczyk-Strzała, 2014).

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