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PROGRAM LIFE CYCLE – USING THE EXAMPLE OF A STUDENT PREINCUBATION PROGRAM

Modern businesses face various challenges, both from their environment and from within. By solving business problems, economic entities can act independently and also collaborate with other organizations, aiming for efficient and effective implementation of strategic and operational changes that make up programs, which have been growing in popularity in recent years. While the literature on the subject describes cooperation in the implementation of programs between businesses, there is a research gap in relation to intersectoral cooperation for the scope being studied. This article aims to identify the process of initiating, defining, planning, delivering projects, renewal, and program project solutions using the example of a preincubation program. This program is implemented by a manufacturing company located in Poland in collaboration with a third-sector, non-profit entity. The case study method is used in the research process.

Keywords: preincubation, project program, preincubation program, life cycle, intersectoral cooperation.

1. INTRODUCTION

Programs play an important role in the practice of organizational functioning, and their significance, as well as the significance of program management, continues to grow. They represent an approach focused on the effective and efficient implementation of comprehensive changes in a turbulent and constantly changing environment, which is inherently associated with risk (Bukłaha, 2022). Achieving the defined benefits of a program is possible through the implementation of process groups that constitute a repeatable pattern of its course, consisting of universal principles, guidelines, and planning and implementation methods (BenMahmoud-Jouini, Charue-Duboc, 2022). By recognizing the repeatability of model structures, these structures can be defined as cyclical, forming part of the program's life cycle model (Trocki, 2013). The aim of the

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article is to identify the process of initiation, definition, and planning, as well as the delivery of projects, renewal, and program project resolution using the example of a pre-incubation program. This program was implemented by a production company located in Poland in cooperation with a non-profit entity (Foundation). The case study method was used in the research process.

2. PROGRAM OF PROJECTS

Currently, organizations operate in a multi-project environment, which means that they focus their attention not on one project, but on the entire portfolio or program of initiatives (Janasz, Wiśniewska, 2014). Programs constitute a group of mutually related projects, programs, and other activities managed in a coordinated manner that allows for achieving benefits and a level of control that would not be possible if projects were implemented individually (Project Management Institute, 2021; Partington et al., 2005). Programs represent a temporary and flexible organization created to coordinate a set of related initiatives and actions on the path to achieving results derived from the strategic goals of the organization (Project Management Institute, 2006). They are oriented towards the long term, require strategic decision-making, and involve continuous learning in the process of reducing ambiguity during their implementation. In contrast to projects, they do not focus on delivering results within specific constraints, their attention is devoted to implementing changes and achieving benefits (Bukłaha, 2022).

In multi-project management, the achievements of managing individual ventures are used, taking into account the specific circumstances of the multi-project environment. In program management, the focus is on harmonizing component projects. The main problems here are the search, creation, and discounting of synergy effects, as well as program benefits management. Project management is an area of strategic management that aims to effectively and efficiently link initiatives with the organization's strategy (Trocki, 2013; Trocki, Sońta-Drączkowska, 2009).

3. PROGRAM LIFE CYCLE

Programs, by their nature, are processes, so managing them should be based on a process approach, its principles, and methods. This means that the appropriate model for describing initiatives is a process model, which is used to characterize dynamic organizational phenomena, including program projects. Research on the proper implementation of programs aims to develop the project execution process, which involves transforming the program's input variables into its expected benefits (Trocki, 2013; Bitkowska, 2009). These processes are captured in the form of the program life cycle, i.e., the model of program implementation over time, which determines the diversity of situations that occur during its implementation. These situations are referred to as phases of the program life cycle. These studies have not led to one universally accepted, generalized model of program implementation due to their diversity. The reference point for programs is the process of implementing changes and achieving benefits for organizations, rather than the production cycle of the project result (Table 1) (BenMahmoud-Jouini, Charue-Duboc, 2022; Sońta-Drączkowska, 2018; Sekuła, 2014).

Table 1. Concepts of the program life cycle

	Author of the concept		
	PMI	**Thiry**	**Pellegrinelli**
Project life cycle phases	• Pre-program • Program establishment • Establishment of management structure and technical infrastructure • Benefits delivery • Program closure	• Formulation • Organization • Implementation • Evaluation	• Initiation • Definition and planning • Project delivery in the program • Program renewal • Resolution

Source: Thiry (2007); Project Management Institute (2006); Pellegrinelli (1997).

M Thiry (2007) proposed an iterative program life cycle, distinguishing the following phases (Figure 1):

- Formulation – defining the goal and identifying stakeholders along with their needs and expectations, determining program benefits, defining critical success factors and key performance indicators. During this phase, the identification of possibilities and the selection of the best course of action, initiation, and evaluation of ideas take place, and the decision to start the program is also made. Unlike project initiation, the formulation phase is a complex process characterized by a high level of ambiguity.
- Organization – evaluation and selection of projects and other actions required to deliver defined benefits, creation of teams and program structures. The phase involves the creation of procedures and operational structures that enable the management of shared resources, interdependencies, and linkages between projects, ensuring continuity in delivering benefits.
- Implementation – starting projects and other actions ensuring program implementation, controlling and monitoring tasks, verifying the scope, approving delivered interim products, and introducing changes to ongoing activities.
- Evaluation – evaluation of program-level benefits achieved through the implementation of individual projects that make up the program. During the evaluation phase, a decision is made to close or renew the program and start another cycle.

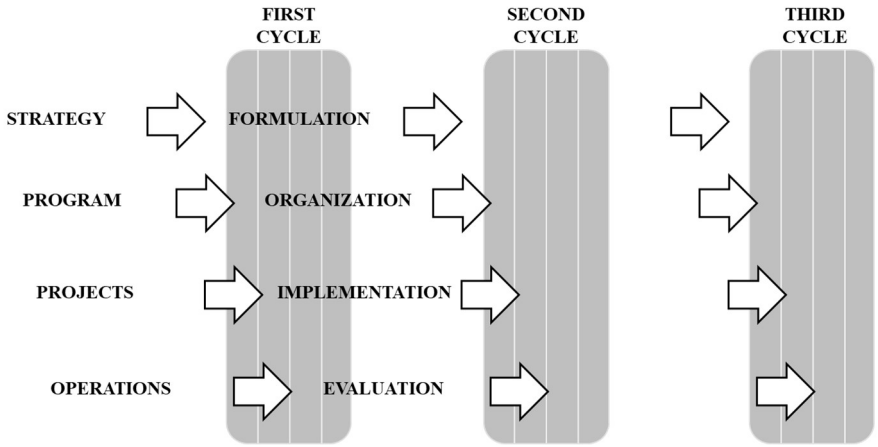

Figure 1. Program life cycle

Source: Thiry (2007).

The individual phases of the program life cycle have been assigned to levels of actions taken by the organization, indicating the nature of the program, which is a connecting element between strategic management and project management. Therefore, programs are undertaken to implement strategies and achieve strategic goals through projects and tasks carried out within them (Thiry, 2002).

The program life cycle proposed by Peregrinelli (1997) consists of 5 phases, including:

- Initiating – defining the need to start the program and determining the expected benefits after its implementation.
- Defining and planning – determining how the program will generate value. This phase involves developing a detailed program and project plan, allocating resources, and communicating with stakeholders.
- Delivering projects in the program – controlling and monitoring the progress of work carried out in individual projects, evaluating the benefits delivered by the program, and responding to identified deviations from the plan.
- Program renewal – determining whether the implemented program needs to verify the defined goals and assumptions. This phase may be related to the annual budget cycle, strategic review, or adjustment of initiatives to current strategic directions of the organization.
- Closure – occurs when there is no longer a business justification for the program. After completing the program, an evaluation of its implementation and achieved benefits takes place, as well as the dissolution of program structures and the allocation of resources to other activities.

The Project Management Institute (2006) identified five phases (Figure 2):

- Pre-program – ensuring strong foundations and acceptance for program implementation. The phase includes: ensuring understanding of the strategic value of the proposed business change; identifying stakeholders making key decisions during the program selection process and their expectations and interests; defining program goals and aligning them with the organization's strategic objectives; providing business justification indicating the needs, feasibility, and rationale for

implementing the program; approving the program charter; appointing a program manager/director; developing the program initiation plan.

- Establishing the program – developing a program plan that outlines how it should be managed and defines its key outcomes. The phase concludes with the approval and implementation of the program management plan, which includes information on anticipated results, costs, risks, and how they will be managed. The stage includes: aligning the program's mission, vision, and values with the organization's goals; developing a detailed cost estimate and schedule; conducting feasibility studies, where possible, to assess the program's technical and economic feasibility; establishing decision-making and procurement principles, as well as selecting subcontractors to support the program; developing a "program architecture" that outlines how projects will deliver results that lead to expected benefits; developing business justifications for each project, including technical, investment, and legal factors that may apply to these projects; communicating with stakeholders and gaining their support. In the event of a decision to proceed with the program, after completing this phase, the program manager/director should have authorization to begin its implementation, according to the developed plan and within the constraints set by the organization.
- Establishment of management structure and technical infrastructure – establishment of an organizational structure in which the program will be implemented, as well as providing infrastructure to facilitate its implementation. Infrastructure includes both appropriate processes and procedures, as well as technical solutions such as project management support systems.
- Delivering benefits – initiating projects that are part of the program and coordinating their results in such a way that they contribute to achieving the benefits of program implementation. Delivering benefits is a key phase of the program lifecycle, which often lasts the longest and absorbs the most resources.
- Closing the program – the program phase is concurrent with the project closure stage. In general, it involves transferring all responsibilities, unfinished activities, risks, issues, etc. in a way that ensures their support. The phase includes the following activities: stakeholders and program sponsor reviewing the status of benefits; resolving the program's organizational structure; resolving the program management team while ensuring proper movement of all material resources (equipment, etc.); providing support that will provide guidance and service in case of any issues or defects; in general, such support. During this phase, the following occurs: establishment of organizational structures for monitoring and controlling projects; initiating projects that will allow the achievement of program goals; managing the transition from the current state to the planned or target state; ensuring that project managers have implemented project management methodology; ensuring that project results meet their technical and business expectations; analyzing progress in relation to the plan; identifying changes in the environment that may affect the program plan or expected benefits; ensuring that typical actions and dependencies between projects and other programs in the portfolio are coordinated; identifying risks and ensuring appropriate actions are taken related to them; identifying issues and ensuring their proper handling; coordinating the effective use of resources within the program and project activities; reviewing change requests and accepting additional actions where appropriate; establishing

thresholds for corrective actions in situations where it turns out that benefits are not delivered as expected; communicating with program stakeholders. It is ensured through appropriate contracts; documenting the experience in the organization's databases, so that it can be used in the future for similar programs. Experience is most often expressed by describing weaknesses or areas requiring improvement, as well as describing strengths and best practices that can be used in the future; preserving and cataloging all program-related documents to facilitate their use in the future; managing all transfer operations.

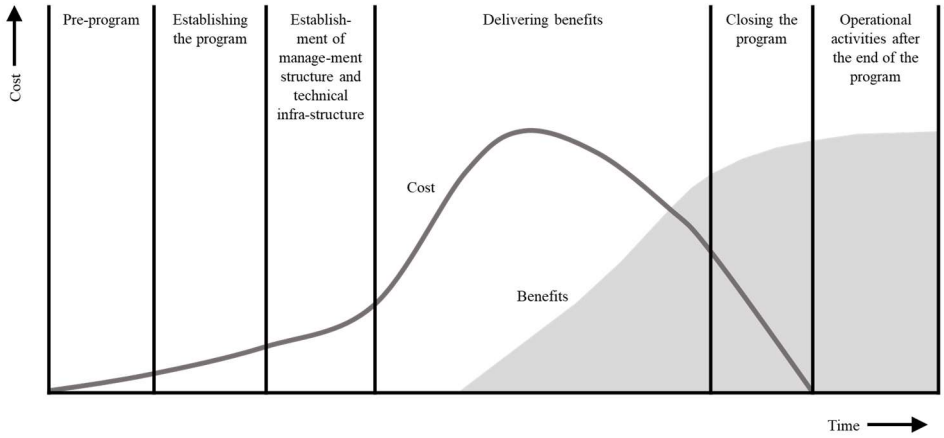

Figure 2. Program life cycle

Source: Project Management Institute (2006).

4. CASE STUDY

As part of the case study, a program developed and implemented by the Foundation for Creating Shared Value by Students is presented. The authors of this article actively participated in the activities carried out throughout the program life cycle. The gathered experiences and drawn conclusions allowed for the preparation of material that serves as an example of cross-sector collaboration.

4.1. Initiating

The Program Sponsor is focused on continuous development of products and functional areas within their organization international structures. In connection with this, the company's management has concluded that it needs a new “place”, “space” or “platform” that will help find and develop new ideas to solve business problems that have been unadapted for some time to undertake development activities.

To meet this need, the company turned to the Foundation, which, as part of its team of experts, has individuals with extensive experience in creating incubation and acceleration programs used at international universities. The benefits to be achieved through the activities under the Program were the desire to respond to market challenges in terms of building an attractive employer image, searching for innovations in functional areas of organizations, developing cooperation with academic experts, as well as with entities from the third sector. The Program aimed to meet the needs of both future employers and

individuals entering the job market. It was assumed that attractive and modern development opportunities would be created for students in the academic ecosystem in Poznań. The idea was also to ensure that the benefits of implementation would be shared with the local community and the region. The pre-incubation was bilateral, meaning that for each side of intersectoral cooperation.

4.2. Definition and planning

It was established that the Program participants would be presented with questions that are important for the future of the company from a strategic perspective, and for which their own answers have not been specified within the organization so far. Representatives of the company were convinced that a fresh perspective and youthful creativity would prove to be an added value, which had not been previously obtained through other socially responsible actions.

In order to develop the assumptions and scope of the Program, independent expert research was conducted to identify business problems in various functional areas, ranging from marketing to logistics and production. Representatives of middle and senior management (including a board member) participated in the identification of challenges. In January 2021, 15 ideas for potential project areas within the pre-incubation program were identified. Then the received results were consulted with experts from the Foundation, and a series of introductory workshops were conducted to familiarize individuals from the company with the Foundation's proprietary pre-incubation process model, project approach, and innovation-oriented mindset combined with the idea of creating startups. Students who have innovative ideas often do not know how to implement them. Furthermore, they need formal support to gain preparation for the implementation of real business projects and their testing in the market, as well as application in real business conditions. The creation of the Program aimed to provide such support and enable students to develop within the Poznan university ecosystem with business and the third sector. It was assumed that this way of operating would be attractive to students and allow the company to have a stronger presence in the environment of young, talented people under the supervision of independent experts from the Foundation. The goal of the meetings was to outline the actions that are necessary to be taken in order to establish the first corporate incubator. The process of building the Program's assumptions, as well as determining the appropriate guidelines, took about 5 months (February-June 2021). During which numerous working meetings took place (as many as 11), two trainings for future mentors, as well as a series of consultations in strictly project areas selected for students in the Program, to ensure that they will be interesting for potential participants. The result of these efforts was the creation of a system of project challenges that evolved until the official start of the Program.

4.3. Delivering projects in the program

Implementing the Program requires appropriate resources and budget.

The company was prepared to invest in people, technologies, and infrastructure to create an effective and efficient Program. In addition, a sufficient budget was established to provide financial support for the best project teams and to provide appropriate substantive support for all Program participants. The budget assumed nearly 83 thousand PLN, of which 21 thousand PLN was directly allocated to rewards for participants. As part of the developed Program, it was foreseen that students would have access to specialists (tutors) from various fields who would help them in implementing their projects. These

mentors will be tasked with imparting knowledge in the areas of business, marketing, finance, law, production, logistics, and other necessary fields that will be essential for the development of initiatives solving identified problems within the company.

Milestones for Program Participants:

- Gate I – team presentations – problem recognition and research,
- Gate II – team presentations – problem solution variants,
- Gate III – team presentations – selection of the best solution – ceremonial finale with awards for the best projects

Projects that reached the grand finale focused on both internal processes – a virtual advisor for business travel, truck logistics on the factory premises in Wronki, a gamification platform for Group employees, as well as external ones – an innovative interface for ovens, Internet Things in household appliances, analysis of communication challenges in an aging society, or the concept of multisensory interaction with users.

4.4. Program Renewal

The Program was continuously monitored by the Steering Committee, consisting of an HR representative and a member of the Foundation. Before determining whether the Program should be continued, an evaluation was conducted, which included:

- Evaluation of achieved goals – it was verified whether the Program achieved its main goals, namely preparing participants – students for conducting innovative projects through acquiring practical knowledge and experience. For this purpose, the initial goals and assumptions of the program were compared with the results achieved during the program implementation.
- Participants' satisfaction – the level of satisfaction of students during and with the Program was examined, especially regarding the level of preparation and quality of conducted workshops, the quality of mentors, and the organization of the Program itself.
- Project success – it was also important to collect information on an ongoing basis about the success of the projects that were implemented as part of the Program. The results of the student teams' work allowed for the creation of a knowledge base about 7 projects.
- Cost and benefit analysis – the budget was fully utilized. No additional costs were incurred. On the other hand, the benefits that the program brought to the participants, as well as to the company and foundation itself, exceeded initial expectations.
- Evaluation of the program's impact on the development of the local startup ecosystem. The program contributed to an increased interest in startups among students. An increase in student activity in the Foundation was observed. Four program participants volunteered for the Foundation. They subsequently obtained funding from the City of Poznań for a six-month internship in the organization.

The evaluation results, including the measurement of achieved benefits, allowed for an assessment of the effectiveness of the Program and enabled its development, resulting in the development of an improved methodology for employee incubation and student pre-incubation. The conclusions drawn from the implementation of the Program allowed for the recognition that the perspective of organizational learning was implemented.

4.5. Solution

Due to the current economic situation in the economy, as well as the strategic goals of the researched company, the decision was made to suspend further implementation of the

Program. The business justification for the program is still valid, but it is not reflected in the current functional activities of the company.

It is worth adding that the formula of the Program was appreciated in the prestigious Employer Branding Excellence Awards competition in the Innovation Employer Branding category (2022). This category recognizes employer branding activities that require a high level of creativity, the use of modern solutions, and the ability to surprise the audience without losing sight of their main goal.

5. CONCLUSIONS

The life cycle of a program is described and explained in the literature by researchers and practitioners in various ways. However, the main components of the process are relatively similar, and even complementary. Certainly, understanding the program's life cycle, its variables, contributes to a reliable and methodical approach and should allow for a successful program implementation. Economic practice in this area does not deviate from the literature's indications but verifies certain assumptions made. The developed pre-incubation program is an example that does not deviate from the guidelines of project management theory. Nevertheless, the verification of initial assumptions and program evaluation can contribute to the development of the planning and implementation area in such a specific field as early-stage business maturity innovations. The authors recognize significant challenges associated with program implementation, where the program coordinator is required to have a different perspective on planning and monitoring. It is also worth adding that despite the established project management standards, program management poses a significant challenge even for large organizations.

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