# PROJECT PORTFOLIO MANAGEMENT OF IT COMPANIES

## Shcheblykina I.O.,  Okhmat O.I.
*Zaporizhzhia National University*
*Ukraine, 69600, Zaporizhzhia, Zhukovsky str., 66*
innasheblykina@gmail.com, carlbrennet@gmail.com
ORCID: 0000-0002-3214-8478

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In this article, I delve into the complex field of project management within contemporary organizations, with a particular focus on the Information Technology (IT) sector. The central theme revolves around the growing interdependence of projects, as truly independent projects have become increasingly rare.

The business of delivering IT services is marked by its non-cyclical nature, where projects vary significantly in terms of their duration, core objectives, and the nature of the work involved. It's worth emphasizing that the critical resource in this context is the specialists themselves, each contributing a unique combination of education, qualifications, experience, skills, knowledge, and a project history that informs their work.

IT projects exhibit a wide array of forms, including those with fixed time and cost structures, projects requiring payment upon work completion and material usage, long-term commitments to dedicated teams, and even the establishment of specialized development or competence centers. While individual project management seeks to ensure the timely and budget-friendly delivery of a product, portfolio management has its sights set on maximizing the overall returns from the entire portfolio of projects. Consequently, comprehensive examination, awareness, understanding, and careful optimization across various aspects of this domain are imperative for achieving effective outcomes.

To address these intricate challenges, the  organization has crafted three distinct programs tailored to the specific needs of various business units. They are Matrix Organisation, Opportunity Life Cycle and Opportunity Lifecycle Decomposition.

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# УПРАВЛІННЯ ПОРТФЕЛЕМ ПРОЄКТІВ ІТ-КОМПАНІЙ

## Щебликіна І. О., Охмат О.І.
*Запорізький національний університет*
*Україна, 69000, м. Запоріжжя, вул. Жуковського, 66*

**Ключові слова:**
управління портфелем проєктів, директор з інформаційних технологій, фреймворк, бізнес-підрозділ, людські ресурси, ІТ-проекти

У цій статті я заглиблююсь у складну сферу управління проектами в сучасних організаціях, приділяючи особливу увагу сектору інформаційних технологій (ІТ). Центральна тема обертається навколо зростаючої взаємозалежності проектів, оскільки справді незалежні проекти стають дедалі рідшими.

Бізнес із надання ІТ-послуг відзначається нециклічним характером, коли проекти значно відрізняються за тривалістю, основними цілями та характером роботи. Варто підкреслити, що найважливішим ресурсом у цьому контексті є самі спеціалісти, кожен з яких вносить унікальну комбінацію освіти, кваліфікації, досвіду, навичок, знань та історії проекту, яка інформує їхню роботу.

ІТ-проекти демонструють широкий спектр форм, включаючи проекти з фіксованим часом і структурою витрат, проекти, що вимагають оплати після завершення роботи та використання матеріалів, довгострокові зобов'язання перед спеціалізованими командами та навіть створення спеціалізованих центрів розвитку або компетенції. У той час як управління окремими проектами прагне забезпечити своєчасну та бюджетну поставку продукту, управління портфелем має на меті максимізацію загального прибутку від усього портфеля проектів. Отже, комплексне дослідження, обізнаність,

розуміння та ретельна оптимізація різних аспектів цієї сфери є обов'язковими для досягнення ефективних результатів.

Щоб вирішити ці складні завдання, організація розробила три різні програми, адаптовані до конкретних потреб різних бізнес-підрозділів. Це матрична організація, життєвий цикл можливостей та декомпозиція життєвого циклу можливостей.

### Statement of the problem

Organizations embarking on projects are essentially making forward-looking investments. These investments serve various purposes, such as enhancing value for shareholders or owners, ensuring the organization's continuity, or improving revenue and cost management. Similar to financial investments, projects necessitate the allocation of an organization's resources, encompassing financial capital, human resources, and managerial time. The goal for each investment is to be effectively managed to optimize the expected returns or benefits while simultaneously mitigating associated risks.

Investments are chosen based on their superiority when compared to other investment options. To maximize advantages and minimize risks across all investments, organizations only proceed with those investments that offer a greater relative benefit. These selections are made within the confines of the organization's overall risk tolerance.

Project Portfolio Management (PPM) adheres to similar principles as investment portfolio management, focusing on optimizing the collection of projects to maximize overall benefits while minimizing portfolio-wide risks. Senior management often deviates from the project portfolio management model and typically does not make IT project investment decisions (Kendall & Rollins, 2003). Instead, IT projects are frequently initiated and executed without due consideration for the benefits they will generate or the cumulative risks to the organization posed by all IT projects.

### Analysis of recent studies and publications

In the absence of IT-Project Portfolio Management, adversely affects project success, as has been reported previously by many world-known researchers and management scientists (T. Reyck, H. Lockett, M. Wright, P. Nijkamp, Z.J. Acs, J. Pfeffer, A.S. Sohal, Th. Ramayah, K. Lyytinen) as well as Ukrainian scholars, such V.P. Rubalko, V.L. Kompanietc, M.K. Lytvinenko, M.O. Kopan etc. Prominent scientists have played a vital role in advancing the field of project portfolio management, yet numerous challenges persist, given the rapid evolution of the IT industry.

### Objectives of the article

The article aims to investigate the compelling reasons for transitioning to portfolio management for companies with a focus on the implementation of IT projects. It also explores both conventional and innovative methods for shaping and managing project portfolios in IT companies.

### The main material of the research

Today in any organization it is difficult to find a project that would exist on its own, without interaction with other projects. There is no cyclical nature in the business of providing IT services - projects vary in duration, in essence, and in the nature of the work. And the main resource is specialists, for each of whom his education, qualifications, experience, skills, knowledge, and project history are of great importance.

Projects can be with a fixed time and cost, with payment upon completion of work and materials spent, with a dedicated team for a long period, or even with the construction of a dedicated development center or competence center. If the goal of managing an individual project is to create a product on time and within budget, then the goal of portfolio management is to obtain the greatest return from the implementation of the complete set of projects. In this regard, a deep study, awareness, understanding and maximum optimization of the entire range of issues in this area of activity to achieve effective results is of particular importance. Let's take a look at one of IT companies.

The IT business unit faced a pressing need to swiftly demonstrate the value-added services IT could offer in project deliveries and in response to the business's service requests. Adding to the complexity, there was a lack of transparency regarding the total project costs and the allocation of resources across the ongoing projects.

The primary challenge for the new chief information officer (CIO) was to:

1. Guarantee that IT resources were directed toward projects that brought tangible value to the business.

2. Establish the capability to track and report on the progress and business benefits achieved by these projects.

3. The initiated organizational change, in response to the business challenge, ultimately resulted in the implementation of PMM for the unit [1].

The organization created four distinct programs of work, each tailored to the specific needs of various business units, following a matrix structure. Program managers were appointed to oversee these programs, with a primary focus on achieving immediate enhancements in the following areas:

1. **Introducing Senior Management to Project Management's Value Proposition:** The program managers were tasked with familiarizing senior management within the business units with the benefits and value that effective project management brings to the organization. This involved highlighting how project management practices can contribute to the achievement of strategic goals.

2. **Implementing Cost-Benefit Analysis for All Projects:** Another critical task involved the introduction of cost-benefit analysis for all projects. This process aimed to assess the potential returns and costs associated with each project, helping to prioritize initiatives that offered the greatest value and aligning project decisions with business objectives.

Additionally, as an ongoing responsibility, the program managers were assigned the following tasks:

• Enhancing project communications to ensure effective information flow between IT and the Business Units.

• Ensuring active involvement of stakeholders in project planning and execution, improving collaboration and buy-in.

• Enhancing project planning in coordination with the Business Units to streamline project execution and align with their specific needs and objectives.

Program Managers played a pivotal role as the primary point of contact for communication with the business units, serving as embedded representatives of the IT business unit within these units. Their responsibilities encompassed both immediate improvements and the ongoing advancement of project management practices and collaboration [2].

IT Matrix Organisation: Capability / Programs

The organization organized its work into four distinct programs, aligning them with specific business units, following a matrix organizational structure. Program managers were selected to lead these programs, with a primary objective of promptly implementing enhancements in the following areas:

1. **Familiarizing Senior Management of Business Units with the Value of Project Management:** program managers were tasked with introducing the senior management of the business units to the benefits and advantages of effective project management. This involved demonstrating how sound project management practices can contribute to the organization's success and strategic objectives.

2. **Introducing Cost-Benefit Analysis for All Projects:** Another critical objective was the introduction of cost-benefit analysis for all projects. This process aimed to evaluate the potential returns and costs associated with each project, enabling the prioritization of initiatives that offered the greatest value and aligning project decisions with the business's goals [3].

Additionally, as an ongoing responsibility, program managers were mandated to:

• Enhance project communications to ensure effective information flow between the IT department and the business units.

• Ensure active stakeholder involvement in project planning and execution, fostering collaboration and support.

• Improve project planning processes in collaboration with the business units, streamlining project execution and aligning it with their specific needs and objectives.

Program managers played a pivotal role as the primary contact points for communication with the business units and were designated as the IT business unit representatives embedded within the business units. Their responsibilities encompassed both immediate improvements and the continuous advancement of project management practices and collaborative efforts (Fig. 1).

On the other side of the matrix, resource capabilities were formed and resource managers appointed. Resources are assigned at the request of project managers, who manage these projects and are prioritized with the business units to ensure focused completion of projects [3].

Opportunity Life Cycle

The opportunity life cycle was created to establish standardized processes for managing all IT initiatives, including projects, and to facilitate the evaluation of the portfolio. A project approval and sanctioning process was already in place and was being used for various initiatives, including those related to IT. This existing process was incorporated into the opportunity life cycle framework.

The opportunity life cycle serves as a model for continuous enhancement of all IT initiatives, whether they are initiated by the business units or the IT department itself. It encompasses a wide array of activities, such as updating IT infrastructure and renewing application software, among
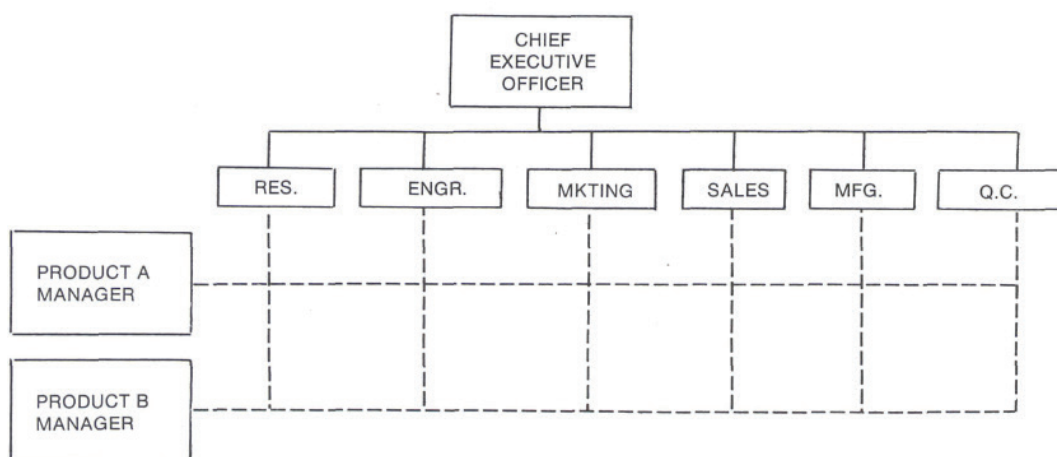


Figure 1 – IT Matrix Organisation

others. Its purpose is to provide a structured approach to managing and improving IT initiatives while ensuring alignment with the organization's objectives (Fig. 2).
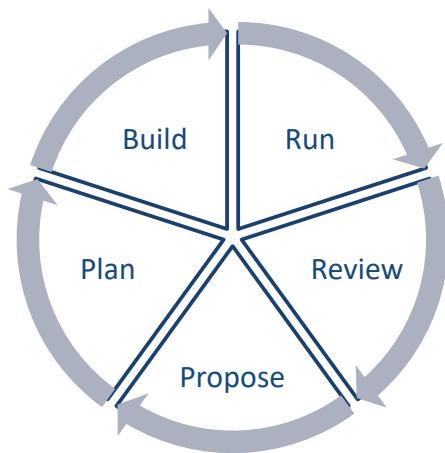


Figure 2 – The Opportunity Life Cycle

The opportunity life cycle has five phases:

1. Proposal Phase. In this phase the IT opportunity is recorded and the expected business benefits and business risks quantified and business-strategy alignment validated.

2. Planning Phase. In the Planning phase, approved Proposals of Initiatives are planned in detail for execution. Business benefits and risks are evaluated again based on information obtained and generated in the planning phase.

3. Build Phase. The build phase is the project execution phase, with benefit realization, project progress and business risk mitigation being monitored.

4. Run Phase. IT service delivery is depicted in this phase.

5. Refresh. Regular reviews on benefits of existing systems and applications are depicted in the Refresh phase [4].

All IT initiatives will need to be consider and evaluated based on the:

1. Business Principles that apply to the IT business unit

2. The Information and Communication Technology (ICT) Architecture

3. The Infrastructure Architecture

4. The Applications Architecture

The introduction of the opportunity life cycle placed a strong emphasis on the approval and authorization procedures that precede the actual implementation of IT-PPM. In essence, the processes outlined in the opportunity life cycle serve as the foundation for the implementation of IT-PPM. Therefore, it is essential to delve into more comprehensive details regarding each of the phases within the opportunity life cycle [5].

Opportunity Lifecycle Decomposition

The opportunity life cycle phases form the top of the exhibit and details of each phase are recorded under the phase.

An opportunity life cycle phase is made up of four aspects:

• Phase Responsibility. The responsible person for conducting and completing the phase.

• Key Elements of the phase. These key elements are prescribed.

• Phase Acceptance Criteria are used for each phase deliverable and completion of the phase. Approval to proceed allows for the initiative to proceed to the next Phase.

• Portfolio Performance Criteria include the evaluation criteria for all initiatives combined. This aspect forms the basis for the performance criteria of all work effort expended on initiatives within a phase. For example an assessment is made as to whether the performance of all activities for a particular phase provides the business benefits that are expected.

Two elements of the opportunity life cycle decomposition are expanded on to explain the usage of the opportunity life cycle processes and procedures:

a. The first recording of the opportunity and the initial Assessment.

b. Status Changes of the opportunity life cycle.

It is seen as important that all opportunities are recorded at the time that these Opportunities become known to the IT business unit (through the IT Program Manager) and that no opportunity selection is made outside the formal phase work effort. The recording of the opportunity assumes that every opportunity needs to be assessed in the formally prescribed process. Each recorded Opportunity must be supported by the Sponsor, who is the responsible individual from the business unit that will benefit from the opportunity. An alignment with the business-strategy is not required at this stage in the process so that new opportunities are not curtailed by assumed constraints thus allowing for entrepreneurial activities or new industry developments to become considered in the process.

The Scope of the opportunity recording is limited to a mutually agreed and understood description of the opportunity including an overview of the Business Benefits and Risks that are attached to the opportunity. The opportunity description must also include a description of the current situation and the benefits and risks attached to not following through with the proposed opportunity. The description of the current situation with respect to the Opportunity is required to ensure that the assessment of the opportunity includes the "do nothing" option [5].

The Initial Assessment of the Recorded Opportunity, whether or not the Opportunity should proceed to the Proposal Phase is based on:

• The expected Business Benefit and the Business Risks that are attached to the Opportunity.

• The Business Risks that are attached to not following through with the Opportunity to the Proposal phase.

Whether or not a Status Change from one phase of the Opportunity Life Cycle to the next phase is followed through is dependent on two sets of criteria. Firstly, the Description and Benefit / Risk Analysis must be accepted and agreed. This agreement on the Description of the Opportunity and the veracity of the information is assessed in a walkthrough with the respected responsible individuals involved. At the highest level, the CIO and the Business Sponsor must be in agreement on the Opportunity Description and Benefits /

Risks of the Opportunity. Without this agreement there is no basis to proceed with the Opportunity to the next phase.

Secondly, the Approval to Proceed to the next phase of the Opportunity Life Cycle is based on a relative position of the opportunity amongst all other opportunities, on availability of resources that are required for the next phase and the forward commitment of resources that is made already for other opportunities. For example if the forward commitments on accepted opportunities show that a project will over-commit available resources then an assessment needs to be made as to the relative position of the opportunity in all other phases of the opportunity life cycle. Thus, whether or not an opportunity proceeds to the next phase should also consider whether the Opportunity will be able to complete all phases of the life cycle and will not be stalled in subsequent phases because of lack of resources.

## Conclusions

The challenges outlined in the article primarily pertain to IT companies in stages of growth and development. The move toward a systematic portfolio project management approach represents a natural evolution in the organization's management structure, akin to the shift from a matrix-based system to a project-based management system. It is of paramount importance to establish clear criteria for project selection and removal within the portfolio.

The research's scientific and theoretical contribution lies in the creation of a novel definition for "project portfolio" in the realm of Information Technology. Furthermore, the study has advanced the methodology surrounding the optimization of project portfolio management in IT industry companies, both in theoretical and practical terms.

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