



PROJECT PORTFOLIO MANAGEMENT IN THEORY AND PRACTICE

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JEL category: **H43, M1, O22**

Abstract

Project portfolio management (PPM) is a relatively new discipline of project management, and it coordinates and controls the projects in organization's project portfolio with aims to maximize projects' results, to balance portfolio risks and to align the projects to the strategic goals of the organization. In an organization, PPM is on a higher level compared to project management, as the final goal of PPM is achievement of the strategic goals through the projects included in the portfolio. However, different organizations have different attitude towards implementation of PPM, so PPM processes vary from one organization to another. This paper gives an overview of the theory of PPM and role of PPM software tools used in managing project portfolios. It further deals with the representation of project portfolio management theory in practice. Two case studies are provided as illustration. The first case study describes the findings regarding the implementation of PPM at Online Computer Library Center (OCLC), a non-for profit-organization with HQ in Dublin, Ohio, USA. The second case study describes implementation of PPM in Johnson Controls, an American factory for production of electronic parts for automobile industry, located in the free economic zone in the vicinity of Skopje.

Keywords: *project portfolio, project portfolio management, PPM support tools, PPM in practice*

1 INTRODUCTION

Projects play an essential role in modern organizations' battle for success, and in achieving and maintaining market competitiveness. They are undertaken to complete certain tasks in businesses of all types and sizes, and defining projects is very common and useful way to manage operational goals and activities in an organization or organizational unit (Zheng, 2009).

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Projects are defined as temporary endeavours undertaken to create a unique product or service (PMI, 2008). Their temporary character - every project has its beginning and a definite end - and their uniqueness make them distinct from operations, which are ongoing and repetitive (PMI, 2008). More elaborate definition is provided by Turner (1999), who suggests that a project is an endeavour in which human, financial and material resources are organised in a novel way to undertake a unique scope of work, of given specification, which constraints of cost and time, so as to achieve beneficial change defined by quantitative and qualitative objectives (Turner,

1999; Filippov, Mooi, Aalders, & Van der Weg, 2010).

Project management and temporary organizational structures do not serve only to deal with extraordinary tasks, but also to complete regular everyday operations in the organizations (Engwall, 2003). In the last couple of decades, increased use of project management can be witnessed in organizations, especially those of the developed economies. Organizations use project management as a means to achieving their goals, and by managing projects they are able to improve their planning capabilities, control of their activities and the ways of using organizational resources. As project management tools and methods proved to be successful, managers determined that pushing the organizations to the form of projects can improve operations efficiency. According to the international non-for-profit organization Project Management Institute (PMI), which is considered to be authority in the field of project management, today 1/5 of the worlds GDP or 12 trillion American dollars are spent on projects (PMI, 2012).

However, when it comes to multi-project environment, efective management of one individual project is not enough. The fact that organizations have more parallel projects increases the importance of coordinated management in form of Project Portfolio Management (Killen, Hunt, & Kleinschmidt, 2007).

2 PROJECT PORTFOLIO AND ITS MANAGEMENT

2.1 Project portfolio

In portfolio management, all the projects are managed as a group, which is treated as a set of investments (activities) that can balance the properties like risks and return. Besides following the traditional practices for management of single projects, such as defining, estimation, scheduling, monitoring and optimization of the tasks and resources needed for planning and finishing the project, projects are managed on a higher portfolio level (Zheng, 2009). Project portfolio is a group of projects that share and compete for same resources and are carried out under the sponsorship or management of an organization (Mueller, Martinsuo, & Blomquist, 2008; Archer & Ghasemzadeh, 1999). Turner and Mueller (2003)

define a portfolio as an organization (temporary or permanent) where projects are managed together to coordinate interfaces, prioritize resources between projects, and thereby reduce uncertainty. Similar to that, Artto, Martinsuo, & Aalto (2001) define project portfolios as collections of projects performed in the same business unit which share strategic goals and resources.

A portfolio exists in the frames of an organization, and it is consisted of a set of current components and planned or future activities, in which portfolios are not temporary like projects or programs (Kristjánsson, 2012). Portfolio components can be quantified, ranged, and prioritized. At any time, a portfolio provides insight into its components which reflect organizational strategic goals, and influence them at the same time. That means that a portfolio represents the collection of all active programs, projects, sub-portfolios and other work of an organization in a certain time (PMI, 2006). One organization can have one or more portfolios. For example, there can be one portfolio at the corporate level, and other portfolios can exist in the different units of an organization.

2.2 Project Portfolio Management

An organization implements its strategy through portfolio management in business operations. The basic characteristic of portfolio management is to ensure that all the managed projects add value to the organization, that they are chosen and carried out in the frames of the organization's capacity, and that the responsibility is assigned to a certain person to realize the benefits from each of them (Wideman, 2004). The major components of portfolio management include supporting strategic objectives, ensuring value creation, prioritizing projects based on their relative importance, managing the flow of benefits and integrating stakeholders around business objectives (Trentim, 2013b).

Project portfolio management is based on the early theories for portfolio selection in the field of finances, and on the idea that methods similar to the investment decisions optimization methods which proved to be successful in the fields of financial investments can be implemented in project portfolios. The concept of PPM came from two complement, but independent drivers. The first one was the need to make rational investment

decisions that would result in benefit for the organization, and the second was the need to optimize the use of resources in order to ensure that bringing that benefit would be conducted in effective and efficient manner (Young & Conboy, 2013).

Project Portfolio Management (PPM) deals with coordination of projects and programs in the frames of an organization with aims to optimize the results, balance the portfolio risk profile, govern the alignment of projects with the organization's strategy and deliver the projects within the planned budgets (Skenderovic & Burcar Dunovic, 2008). It operates at strategic level and unlike projects and programs, PPM is not of a limited duration - it represents a continuous process which requires regular efforts to secure portfolio

balance and consistent alignment with the strategic goals of the organization. Generally, project-portfolio management is a way for companies to analyze and collectively manage in a coordinated way a group of current or proposed projects to reap benefits not available if they were managed individually (LaBrosse, 2010).

The tendency of project portfolio management is to increase the return from projects investments and to contribute to the competitive advantage of an organization by providing a holistic frame for strategic management of project portfolio. It requires that many factors are taken into consideration, and the ability to envision the possible future consequences to support the decision making process in the strategic project portfolio (Killen & Kjaer, 2012).

Table 1. Consequences of not having project portfolio management (Source: Moustafaev, 2011).

No PPM implies:	Short-term effect	Long-term effect
No strategic-fit criteria for project selection;	Projects are not aligned with the company strategy;	Resources are wasted on wrong ventures;
Unwillingness to cancel projects; Many projects end up on the to do list;	Too many projects; Resources thinly spread; Quality declines;	Increased time to market; Commercial failure rates increase;
Weak go/kill decisions	Excessive number of low-value projects; Good projects are starved for resources	Too few stellar projects
Lack of rigorous selection of process; Projects selected on emotion, politics	Bad projects are selected	Commercial and technical failures

It can be concluded that project portfolio management represents an ideal tool for helping decision makers in the formulation of scenarios for investment in the projects which will have greatest impact on the value stream and will position the company most competitively in their markets (Straton, 2011). Portfolio decision makers are able to look at the proposed project in relation with other proposed or ongoing projects and to analyze the impact to the company, using different scenarios. A key artifact to formulation of these scenarios is the business case since it looks at various alternatives for implementing the proposed project or program and how it might play in the current business environment (Straton, 2011).

2.3 PPM Goals and Phases

In portfolio management literature, and especially in project portfolio management literature, three different goals under the general objective can be found: to maximize organizational benefit from the pursuit of the "optimal" portfolio (Dye, & Pennypacker, 1999; Arto, Martinsuo, & Aalto, 2001; Cooper, Edgett, & Kleinschmidt, 2001). These three main goals of PPM are:

1. Strategic alignment,
2. Portfolio balance, and
3. Portfolio benefit maximization (Arlt, 2010).

Some authors include a fourth goal. For example, Mueller and Blomquist have provided evidence for the relevance of these goals from analyzing PPM

in high-performing companies, and they proposed PPM process maturity as the fourth goal (Blomquist, & Mueller, 2004 In: Arlt, 2010). In his doctoral dissertation, Birgsson talks about four main PPM goals: to maximize the financial value of the portfolio, to ensure project balance, to ensure alignment with strategy and to limit the number of projects in portfolio, as the fourth goal.

Project portfolio management is a continuous process: the projects and programs included start and end, but the portfolio exists until the organization decides to close it (Birgsson, 2012). Levine (2005) recognizes 5 phases of the process of project portfolio management:

1. Portfolio Inventory
2. Portfolio Analysis
3. Portfolio Planning
4. Portfolio Tracking
5. Review and Re-planning

Portfolio Inventory contains information and data about all the proposed, on-going and delayed projects. The information and data are organized for the second phase - Portfolio Analysis, in which projects are analysed using the PPM tools and methods. When the most suitable projects have been selected and initiated, they enter the project planning phase. In the Planning phase, resource, time and cost plans are constructed and integrated with the portfolio planning process where the resource allocation and schedule decisions are made, taking the whole portfolio of projects into account (Birgsson, 2012). In the Portfolio Tracking, metrics can be captured through earned value analysis or gates and they are used to evaluate each project. If these metrics do not fulfill specific criteria, a decision regarding the future of the project has to be taken. The Review of the portfolio involves a re-verification of the portfolios' critical success factors. There might be a shift in the resource availability, validity of the business case, the corporate strategy or in the business, technology or market condition, which can lead to realignment of the project portfolio and replanning in resource allocation and scheduling (Levine, 2005 In: Birgsson, 2012).

2.4 PPM Support tools

In practice, portfolio management is based on information and communication technologies

(ICT). In planning and development of an organization's project portfolio, the software tool has the central role and it represents the main information resource. Along with the data about the projects, metrics and different calculations possibilities, many other information resources and knowledge, such as standards, manuals, instructions, and other types of professional literature can be organized in the digital library. Project management (PM) and Project Portfolio Management (PPM) support tools are a common theme in the professional literature from the field. De Reyck, Grushka-Cockayne, Lockett, Calderini, Maura, & Sloper (2005) include the need for PPM software tool in the list of project portfolio management's main components as the 8th component, the first seven being: centralised view of the project portfolio; financial analysis, which unites the methods for calculating the financial value of the included projects; risk analysis or risk evaluation, including the technological risks, cash flow and organizational changes, market and ecological risks; interdependencies, including the narrow waists of the projects that can influence other projects; constraints: at a portfolio level, such as the limited budget; complete analysis at portfolio level; and categorization (for balancing the project mix), selection, and governance.

Specialized project portfolio software provides support for structured selection of projects for the portfolio and allocation to resources based on knowledge and prioritization rather than politics (Levine, 2008). Supporting IT systems may enable visibility, standardization and process improvement, with the overall objective to manage the continuous flow of projects (Filippov, Mooi, Aalders, & Van der Weg, 2010). The system can exchange information with the systems and application used by the components (PMI, 2013).

Benefits of a system of this kind are numerous. A system for project portfolio planning and management ensures that the planned projects are aligned to the business strategy, allows objective evaluation of all the projects and makes sure that the decisions that are brought on a basis of clear arguments, provides possibility for execution of only the projects which give best results, helps to avoid starting projects for which there are not enough resources, gives clear implications for the financial implication and

enables the organization to see which parts of the system have the biggest benefit from the chosen projects (Hunjak, 2006). The scale, timing, and duration of these benefits can be estimated by considering one or more key metrics and the value to the organization of improving those metrics over time. The benefits can be (Symons, 2009):

- Reduction in project failure rate
- Reduction in successful project cost overruns
- Reduction of project throughput times
- Reduction in the number of low-value projects
- Reduction in administrative time (status reporting and facilitation).

On the market, there are a large number of commercial tools for project portfolio management. These tools for support of portfolio management are rapidly improving and they are usually rich in graphics, they offer possibilities for bubble diagrams, project mapping, tornado diagrams, ranking curves etc. All of the PPM tools have some common features, such as database of proposed and current projects that contains project descriptions, cost estimations, schedule of activities, resources needed, expected benefits etc. (Lee Merkhofer Consulting, 2013). Some PPM tools are intended for use in a particular industry or project types, and others are for general use. The tools that have a specific target usually include special functions intended for that industry or type of project, they build their methodology around business processes, client segmentation and success factors that are typical for that branch.

Levine (2008) suggests that in choosing an appropriate PPM support tool, organizations should specifically look for characteristics such as:

- The ability to build various PPM screens and reports to suit organization's particular needs and style without having to resort to programming.
- Context-sensitive end-user help tools that provide direction on how to accomplish specific tasks in the system.
- Support for PPM-specific functions, such as project selection and prioritization - the software should allow the organization to quantify and qualify project aspects in respect to alignment with strategies, cost/benefits, risks, and impact on resources, it should help

with the evaluation of balance between such attributes and aid in the pragmatic ranking of candidate projects, and it should provide dashboard style displays depicting project health and highlighting areas needing attention.

- Out-of-the-box content in the form of best-practices methodologies to help the organization get up and running more quickly (pre-configured templates, dashboards and reports mapped to standards such as PMBOK, PRINCE2, Stage-Gate and more).

However, these PPM software tools play only supportive role - the most important role is that of the senior management and its commitment to introduce mature project portfolio management (Filippov, Mooi, Aalders, & Van der Weg, 2010).

3 PROJECT PORTFOLIO MANAGEMENT (PPM) IN THEORY AND PRACTICE

3.1 Implementation of PPM theory into practice

Project portfolio management is a discipline of project management which has increased in popularity in the last decade in both the organizations and the academia. PPM is generally considered to be the best improvement in the field of project management since the development of the project management methods in the 1950s (Birgisson, 2012; Levine, 2005). The increased popularity of project portfolio management during the last fifteen years has led to a firm establishment of PPM theory as a discipline within the research field of Project Management (PMI, 2008). In this period, there has been an increased rate of published articles focusing on project portfolio management.

In literature, project portfolio management (PPM) is examined from many aspects and authors write about and do research on many different subjects. The literature examines the ability of the PPM processes, creates PPM life cycle models, focuses on certain types of projects, such as R&D or IT projects, focuses on computer based tools and systems for portfolio management support, deals with the mathematical models for optimization, etc. (Killen, Hunt, & Kleinschmidt, 2007).

Implementation of project portfolio management in practice is an important issue. There are numerous studies of particular cases, and a number of best practice reports can be found among the professional papers from the field. In practice, due to the changing and risky business environment, modern organizations have to work hard on executing their business strategies successfully and obtaining good results. In project oriented organizations, it is essential to select and fund the right projects, and to track the execution of the projects as unity. In order to be competitive, first of all, an organization has to have well-defined mission and vision, and clear stated strategic goals so it can trace its future path and create plans. The senior management has to make a knowledge map of the organization, and be aware of all the strengths and weaknesses of its human potential. As organizational resources are most commonly limited, good portfolio results depend on carefully selected projects that align with and support the strategic objectives. A portfolio should ideally consist of carefully selected, prioritized, monitored and controlled projects, and well-managed resources, and in order to perform well, portfolio management requires a cultural change and solid communications within an organization (Trentim, 2013b).

The motivation to apply or implement PPM may impact the manner of conducting PPM, so the actual introduction of integrated PPM differs from one organization to another. Organizations may decide to adopt their own approaches to PPM or they can rely on the methodologies designed by professional project management associations and consultancy companies (Filippov, Mooi, Aalders, & Van der Weg, 2010). The complexity of the techniques and processes of PPM can also depend on the organization's size. In any case, the determination and devotion of the senior management and the portfolio managers are in the core of the PPM implementation.

An organization that implements PPM should strive to get the maximum value from the PPM investment. The portfolio should be constantly monitored and controlled, so that signs of problems within the portfolio can be timely noticed. Trentim (2013a) suggests that if more than 30 percent of the projects included in the portfolio are troubled or challenged, there is a probability that

the organization has a troubled portfolio. Some of the other signs might be (Trentim, 2013a):

- Lack or no support by senior management;
- Unclear strategic goals;
- Lack of objective selection and prioritization criteria;
- Poor guidelines and structure;
- Lack of standardized project and portfolio management processes;
- Resource allocation issues;
- Poor key performance indicators (KPIs).

3.2 The Cases of OCLC and Johnson Controls, Inc

In the Republic of Macedonia, managing organizations' project portfolios is still in its birth, and the very few companies that actually implement a type of mature PPM are bigger foreign companies that started business in the country not so long ago. In order to illustrate the implementation of PPM and its processes in practice, a research has been conducted in two different organizations in 2013 - one for-profit which operates in Macedonia, and one non-for-profit organization from USA (Petrinska Labudovikj, 2013).

3.2.1 Online Computer Library Center, Inc (OCLC)

OCLC - Online Computer Library Center, Inc. is a non-profit membership organization from the field of librarianship and information technologies - it offers computer library services and conducts research in this field. Established in 1967 as Ohio College Library Center, it has its HQ in Dublin, Ohio, USA, and almost 26.000 members: libraries, museums and archives from 170 countries from all over the world. The number of employees is approximately 1,450 people (OCLC, 2013; Schwab, 2012). The main governance bodies are the board of trustees consisted of 16 members and a global council of librarians, who are elected by regional councils of member libraries. Their vision is translated into a very simple and easily recognizable statement: *The world's libraries. Connected.*

According to the research results, at the time of the survey there were more than 100 active projects throughout the organization, out of which

31 were managed by the Project Management Office in Dublin, OH, USA. The PMO serves as a *Center of Excellence* for many project management related things, such as project management training, mentoring, local and regional project management interest groups, etc. All PMO project managers are project management professionals certified by PMI. OCLC has an ISO 9001 certified quality management system. Apart from the PMO, there are project managers in several divisions throughout OCLC. The typical lifespan of a project in OCLC can be framed in 6 months to 1 year. The interviewed PMO Director considers the organization to be very effective in the use of a project management standards, methodology and process set for the projects in order to continually deliver high performing projects. All processes are well defined, measured for compliance and effectiveness, audited, and continually improved.

Regarding its non-profit character, OCLC does not define profit as an aim per se, and it is not driven by company profit. Value is defined as increased value to the OCLC membership, i.e. reduction of the rate of rise in costs to provide library services to patrons. The strategy is set and projects are selected in accordance with the needs of its members and the value they bring to the global librarianship community. As the member base grows geographically and based on library type, to clearly understand the value a project brings was reported to have become increasingly difficult, and that more effort and different metrics in the process of project selection were needed. However, the influence of the organization's understanding and definition of value in selecting projects has a positive impact on the performance of the portfolio. In selecting a project, OCLC was evaluated as somewhat effective in assessing the likelihood that a project can deliver its stated value to the overall portfolio, as there is a tendency for budget and schedule to be underestimated.

With a reference to the consideration the organization places on the future impact that typical projects will have on limited resources, such as capital or people, the managers broadly assess resource impacts and dependencies, but there is a need to improve this area since the organization experiences a problem with rejecting

or not undertaking a new project, or to stop low-value projects once they have started.

In selection of a mix of projects for a portfolio, the organization assesses the value to be delivered alongside other projects by using prioritization methods such as ranking by cost, value or other metrics. OCLC tries to provide objectivity in project selection and the timeframe for reaching a final decision on project portfolio selection relative to what the management considers being necessary in order to make the best decision is considered to be about right. The organization assesses the complementary and conflicting nature of existing projects compared to new projects being added into the portfolio.

OCLC has a pre-project planning policy and that results in better outcomes, as pre-project planning assessments of the cost and schedule of a project in the early stages reduce overruns. The scopes of the projects are rather well defined, so few scope changes are needed. The changes of the scopes are usually slight and with negligible impact on project delivery. The expected medium accuracy of the cost and schedule at the pre-project planning stage is within $\pm 5-20\%$. Most of the projects are well aligned with the organization's strategy. The organization has well defined governance processes, but application is not rigidly adhered to. OCLC uses standardized collection of project business case data to help make like-for-like comparisons between projects at the portfolio selection stage. It can be concluded from the results that the planning and the governance processes are effective and they contribute to improvement of project delivery.

The project portfolio management tool that the organization uses is rated as above the average and it provides most reporting about project cost, schedule and risk performance necessary. The information provided to the portfolio to enable making good decisions about when or how to intervene in an underperforming project is above the average adequate, and the information helps projects which are problematic in a way to be identified.

The level of control over project performance from the portfolio level is described as very good. The organization recognizes that risks at a portfolio level need to be managed differently from the risk

normally associated with projects, and has somewhat effective risk management. The projects manage their own risks, so the risk management is more connected to project management than portfolio management. OCLC identifies an unsatisfactory project risk to the portfolio by a specific risk rating threshold. The assessment of the optimum mix of projects in a portfolio is updated on a regular basis - at a period of 2-6 months, and projects in the portfolios are periodically monitored to ensure strategy alignment is maintained. As a result of changes to the strategic operating environment, the proportion of the projects in the portfolio changes is between 10% and 25%. Revision of the strategic alignment of projects is effective and is done on a regular periodic basis. In the last 12 months, the number of projects which were withdrawn from the portfolio due to change of the business needs or because they were no longer meeting the criteria is smaller than 10%.

The rate of return and the value of the typical portfolio are measured twice a year, and at project level ROI and the value are measured every month. It is considered that ROI depends on the life cycle of the project and the organization is effective to a certain extent in dealing with difficulty to measure the value delivered at portfolio level. Over a period of one year, the actual expected value delivered by the organization's typical portfolio(s) is below target.

OCLC has been implementing project portfolio management for more than 5 years, and the portfolio is managed as integrated portfolio of projects. The five areas that were identified to need improvements in order to further improve the delivery of the portfolio/s are: standardization of project metrics across portfolios to normalize performance measures; improved risk assessment; enterprise-wide adoption of the portfolio management tool; project prioritization; and resource demand management.

3.2.2 Johnson Controls, Inc. (Macedonia)

Johnson Controls, Inc. is for-profit organization with a main seat in Milwaukee, Wisconsin, USA. It offers services in automotive industry, efficiency of buildings and energy solutions. The company was established in 1885 and today has about 170,000 employees in more than 150 countries in the world

(Johnson Controls, 2014). The company's vision is translated into the statement: "*More comfortable, safe, and sustainable world*". Johnson Controls, Inc. owns a factory for production of electrical and electronic parts for vehicles in the Republic of Macedonia. Information included in this case study refers to PPM in the factory located in Macedonia.

According to the information received from the survey, annually the organization has over 50 active projects, with a typical life span of 6 months. The interviewed manager (Department for Continuous Improvement Coordinator) assesses the use of standards, methodology and process set for project management as very effective. The processes are being continuously updated to continually deliver high performing projects. The project management delivery is driven from the senior management team. Johnson Controls, Inc. defines value as portfolio return on investment, customer service level improvement and reduced operational costs. As a clear understanding of what value means is required when assessing the relative merits of potential projects, in the organization the value is precisely defined across all the projects, the value is well communicated and understood, which has a positive influence on the portfolio results.

In the process of project selection, the organization was evaluated as very effective in assessing the likelihood that a project can deliver its stated value to the overall portfolio. The management finds it very important to take into consideration the future impact that typical projects will have on the resources (capital or people and their interdependencies), and the organization fully assess resource impacts and dependencies over time. When selecting a mix of projects for a portfolio, the organization assesses the value to be delivered alongside other projects using prioritization methods such as ranking by cost, value or other metrics. According to the results, the organization objectively selects projects for the organization's portfolio, within the timeframe for reaching a final decision on project portfolio selection relative to what the management believes is necessary to make the best decision. Johnson Controls always assesses resource and investment conflicts for the whole portfolio, and always takes into consideration "do

nothing risks” in the project design. The project value is assessed against the impact of not investing option, and always considers a number of different project options to achieve the best value from a project.

Johnson Controls, Inc. has a pre-project planning policy, which reduces overruns in costs or schedule and results in better outcomes. Project scope is somewhat accurately defined, with few scope changes needed with negligible impact on project delivery. The expected cost and schedule estimation accuracy percentage range is within $\pm 5\%$. Regarding the alignment of projects with the strategic objectives, the organization always ensure projects meet strategic objectives and then the strategic alignment is revised at every milestone. For evaluation of maturity of projects before they are included in the portfolio, Johnson Controls, Inc. has well established governance processes, applied to every project. The organization uses standardized collection of project business case data to help make like-for-like comparisons between projects at the portfolio selection stage. The results show that the upfront, pre-planning and governance processes positively affect the final performance of a project, and performance outcomes are greatly enhanced.

The project portfolio reporting systems the organization uses was as excellent software program that provides all reporting necessary projects costs, schedules and risk performances. The information provided by the system is assessed as adequate (not excellent), and able to identify problem projects and enable making good decisions about when or how to intervene in an underperforming project. The organization’s level of control over project performance from the portfolio level is described as excellent.

No separate risk management on project and portfolio level is noticed, despite of the fact that professional literature recognizes managing the level of risk in a portfolio as critical to good performance. Management of risks is considered only as project risk management, and it is assessed by the interviewed manager as effective. Project risks to the portfolio are identified by a specific risk rating and costs threshold.

The optimum mix of projects in a portfolio assessment is updated on a regular basis and it

happens every 1-2 months. The proportion of projects in the organization’s portfolio that changes as a result of changes to the strategic operating environment is less than 10%. In the last 12 months, the percentage of projects in the portfolio that have been withdrawn because of business needs change or because they were no longer meeting the value criteria is between 10 and 25%.

In order to avoid difficulties in the determining the final value, benefit or return on investment from the portfolio for projects extending over long and differing periods of time, the value or the return on investment of a typical portfolio and of a typical project is measured monthly. It is considered in the organization that the value returned depends on project lifecycle and that the organization is somewhat effective in dealing with the difficulties in measurement of value delivered at portfolio level when project timescales are overlapping. Over a period of one year, the actual expected value delivered by the organization’s typical portfolio(s) deviates in a certain percent and it is usually above target.

Johnson Controls, Inc. in Macedonia has been using the portfolio management process for 1-2 years and the coordinator assesses the portfolio management in the organization to be completely integrated as part of their investment management process. Resource management, control of the results after, and planning for alternatives have been selected as areas that need to be improved in the future.

3.3 A Parallel between the two organizations

Both of these two organizations are successful in their fields, and have been on the market for a long time. Project and portfolio management are taken very seriously, and the results show a clear senior management interest and focus on improvement of PPM processes. Managers who took part in the survey expressed existence of positive impact of implementation of PPM on the organizations’ success. Objectiveness in project selection being the key element of portfolio success, OCLC and Johnson Controls tend to establish clear selection criteria as to ensure “doing the right projects”, and both the organizations regularly review and assess their portfolios. An important aspect is that the

PPM processes are critically evaluated in the organizations, and managers are able to see the weaknesses of their portfolios. It can also be concluded that for-profit and non-for-profit organizations can equally benefit from integrated project portfolio management.

4 CONCLUSIONS

Globalization, rapid development of ICT and some other factors influence the modern business environment a great deal, and as a direct result, the new business climate is characterized by a lot of opportunities. However, those factors make the business environment very competitive, challenging, and filled with different kinds of risks at the same time. Project portfolio management is the solution appropriate for project oriented

organizations to choose those projects for their portfolio which best fit their business strategy and to be able to maximize the results of the projects they undertake. The distribution of good practice examples is not even in global frames. There is an obvious lack of information about implementation of integrated project portfolio management in organizations from developing countries. Even in western economies the degree of maturity of PPM processes depends on the organizations that implement PPM. The examples presented in the paper show two organizations that find project portfolio management to be very important for implementation of organizational strategy. Benefits from practicing project portfolio management are numerous and they are equal for all organizations, regardless of the nature of business or orientation regarding profit.

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Received for publication: 30.01.2014
Revision received: 22.05.2014
Accepted for publication: 23.06.2014

How to cite this article?

Style – APA Sixth Edition

Petrinska-Labudovikj, R. (2014, 07 15). Project portfolio management in theory and practice. (Z. Čekerevac, Ed.) *MEST Journal*, 2(2), 192-203. doi:10.12709/mest.02.02.02.20

Style – Chicago Fifteenth Edition:

Petrinska-Labudovikj, Rozita. 2014. "Project portfolio management in theory and practice." Edited by Zoran Čekerevac. *MEST Journal (MESTE)* 2 (2): 192-203. doi:10.12709/mest.02.02.02.20.

Style – GOST Name Sort:

Petrinska-Labudovikj Rozita Project portfolio management in theory and practice [Journal] // MEST Journal / ed. Čekerevac Zoran. - Belgrade : MESTE, 07 15, 2014. - 2 : Vol. 2. - pp. 192-203.

Style – Harvard Anglia:

Petrinska-Labudovikj, R., 2014. Project portfolio management in theory and practice. *MEST Journal*, 15 07, 2(2), pp. 192-203.

Style – ISO 690 Numerical Reference:

Project portfolio management in theory and practice. **Petrinska-Labudovikj, Rozita.** [ed.] Zoran Čekerevac. 2, Belgrade : MESTE, 07 15, 2014, *MEST Journal*, Vol. 2, pp. 192-203.