

PROCESSES FOR BUSINESS SUCCESS

KEYWORDS

Project portfolio management • Decision making • Best practices.

Best Practices in Project
Portfolio Management for
**DYNAMIC
DECISION
MAKING**

• ABSTRACT •

The industrial world is witnessing decision making in a very dynamic and competitive environment. Project portfolio management (PPM) is one of the aspects, where, it plays a vital role in dynamic decision-making. Project portfolio management has evolved from a mere strategy to a complete management consisting of decision making at strategic level to implementation at its best level. Researchers have proved that companies following standard procedures of PPM did not strive hard for success. Success for any organization has become synonymous with the correct implementation of PPM. Some organizations do focus on their own signature processes than to follow certain standard methods. These signature processes may prove fruitful to the organizations having varied experience in their own field but for new organizations or not so experienced organizations, developing signature processes may boomerang in long run. Project Portfolio Management sets a standard for processes for business success for such organizations. This paper reviews the best practices of PPM been followed in the organizations.

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INTRODUCTION

Successful innovation has become the major player for revenue growth and ability to provide competitive margins. The ability to innovate and present it to the customer efficiently and moving forward in competition is becoming very important. A successful product launch needs integration of and coordination among multiple areas, including product design, procurement, planning, manufacturing and quality control. Consequently, the organization needs to integrate itself internally and also externally with suppliers and consumers, creating end- to- end supply chain processes and capabilities which will help fulfill product and customer requirements. Along with these aspects, dynamic capability building is an aspect which has been under rated

in many studies. Dynamic capability is an organizational capability that allows heightened responsiveness to a dynamic, realistic work environment and is a method to achieve a unique competitive advantage due to the part it plays in enabling deployment, integration and building of other capabilities and organizational resources in situations which are practically and realistically bound to be ahead. PPM (Project Portfolio Management) processes are the policies, activities practices, methods, procedures, and tools that managers use for on-going resource allocation and reallocation among a portfolio of innovation projects to increase the contribution of projects to the overall welfare and success of the enterprise (Cooper et al, 2001, Levine, 2005). An organization's PPM capability is responsible for the effective deployment of the innovation strategy and provides a holistic look for on-going decision-making to maintain the better combination of projects when implemented properly and conducted on a regular basis, PPM helps in achieving the following in any organization (Cooper, 2000)

- Maximizing the return on product development investments.
- Achieving efficient allocation of resources.
- Maintains your competitive position.
- Establishes a strong link between project selection and business strategy.
- Enables objective project selection.
- Communicates priorities effectively.

LITERATURE REVIEW

As Harvey A Levine (2005) states, the emergency of PPM as a recognized set of practices, may be considered the biggest leap in project management technology since the development of Program Evaluation Review Technique (PERT) and Critical Path Method (CPM) in the late 1950s. Project portfolio management is critical for decision making, governance and to ensure the business objectives are supported by the right set of projects while project management is the critical one to ensure that budget, activity, resource allocation, and the work are accurate and are delivered on time. It appears clear that project portfolio management differs significantly from management of individual projects and program. Project portfolio Management and the associated activity of handling selected projects throughout their life cycles are critical activities in many organizations, since project management practices are so commonly used in many industries for activities such as R & D of new products, implementing new systems and processes in manufacturing, information systems, and construction projects and contracting engineering. (Cooper et al, 1999). There are usually more projects available for selection than can be considered within the physical and financial constraints of an organization, so choices must be made in making up a suitable project portfolio. Unlike project management which focuses on only single projects and program management, which deals with the management of a set of projects that are related by sharing common aspects through interdependencies and common resources, PPM considers the entire portfolio of projects an organization is engaged in, in order to make decisions in terms of which projects are to be given priority, and which projects are to be added

to or killed from the portfolio.’ (Reyck et al. 2005). Project Portfolio Management applied to R&D projects is also defined as: “a dynamic decision process, whereby a business’s list of active new product projects is constantly updated and revised. In this process, new projects are evaluated, selected, and prioritized; existing projects may be accelerated, killed, or reprioritized, and resources are allocated a reallocated to the active projects. The portfolio decision process is characterized by uncertain and changing information, dynamic opportunities, multiple goals and strategic considerations, interdependence among projects, and multiple decision-makers and locations” (Cooper, Edgett, & Kleinschmidt, 2001). Cooper et al. (2001) sought to learn about the importance of support of senior management to Project portfolio management, the most similar techniques implemented and what distinguishes the best organizations from the worst. As part of the analysis of project management, it is important to list some of the elements that affect project success (Leintz and Rea, 1995);

- The integration of project objectives and scope in the organization.
- The project objectives should be explicit and clear.
- The communication between the project and the organization’s strategy.
- The skills of the PMO in implementing the project’s objectives.

There are many relatively distinguished techniques that can be used to evaluate, estimate and choose project portfolios. Many of these techniques are not widely used because they are too complex and require too much input data, they provide an insufficient treatment of risk and uncertainty, they fail to recognize interrelated criteria, they may just be too difficult to understand and use, or they may not be used in the form of an organized process (Santos, B. L.,1989).Firms that wish to sustain in the competition by selecting the most appropriate projects must therefore use techniques that are based on the most critical project measures, but these techniques will not be used if they are not explicit and clearly understood by the decision makers. Although there is no shortage of different techniques for project evaluation and portfolio selection, there is flexibility in the framework for organizing these techniques missing. The strategic effect of portfolio selection is complex and it involves considerations of factors, including the marketplace and the company’s strengths and weaknesses. These can be used to build a broad perspective of strategic direction and focus, and very specific initiatives for competitive advantage. Wheelwright and Clark (1992) suggested a project mapping approach which helps in developing a strategic direction for the organization, but Khurana and Rosenthal (1998), mentioned that the front-end planning process is often done poorly. It is very clear that the strategic direction of the firm must be given importance before individual projects can be considered for a project portfolio; many firms do preparation and planning extensively of strategy before considering individual projects. The Project portfolio concept, according to Rajegopal (2007) and PMI (2006) shown in the figure 1 which explains Project portfolio as a collection of projects and programs and other work that are bound together to facilitate the effective management of work and to meet strategic objectives of the business.

There are diverse ways how the portfolios can likely be organized within a given organization. One way can be linked to the domain or scope of organizational coverage, i.e business groups, units, departments and teams. Domains are spawned by business strategy and they enable projects to be grouped based on strategic significance to the organization, as shown in table 1.

The Hernandez et al. (2011) fortifies on views that the optimal project that is to be selected in the prevailing portfolio would not necessarily a project with the highest present value. The communication and Interactions between the cash flow structure and project’s capital cost may distress in a big way to the value and the capital cost of a final portfolio. A project can be termed as “a complex effort, of indefinite duration, made up of interrelated tasks, performed by various

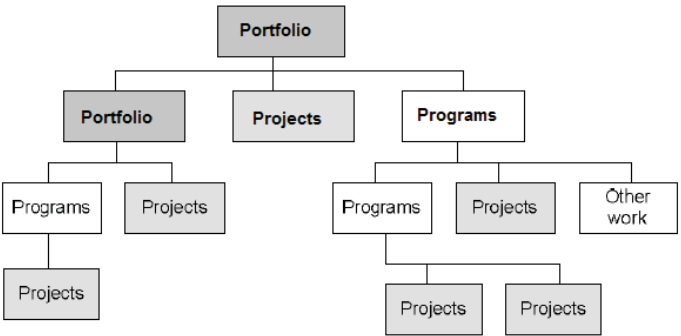


FIGURE 01. Portfolio Sub-Structure (PMI, 2006, P.5)

Strategic/enterprise	New products	Cost reduction
Smaller portfolios based on scope of work	Infrastructure	Maintenance
Divisional and departmental portfolio	Multiple portfolios per organization	Mandatory
Cross-organization	Experimental	Business support

TABLE 01. Different approaches to organize a portfolio (Rajegopal et al., 2007)

companies, with a well-defined objective, schedule, and resources”. The Project Portfolio is a collection of projects that are carried out in the sponsorship and/ or the management of the company. These projects must struggle with others for scarce resources (like machinery, finances, people, time, etc.) that are available from a sponsor; as there are usually not sufficient resources to carry out each proposed project that meets the company’s least requirements on particular criteria like sufficiency of equipment, capability of manpower; potential profitability etc. Portfolio selection process utilizes the project evaluation and the selection methods in the sequence of three phases in which foremost is strategic considerations, and then follows the individual project evaluation and finally the portfolio selection. The techniques used in the first stage could assist in determination of the planned focus and the overall budget distribution for portfolio, whereas those in the second could be utilized to assess the project independently of the other projects, lastly the third stage deals with selection of the portfolios that are based on the candidate project parameters that include



FIGURE 02. Reasons for Project Termination (Wheelwright and Clark, 1992)

their interactions with the other projects via resource constraints or the other interdependencies. In the subsequent, each phase is separate. The techniques applicable to every stage are depicted first, then followed by the series of propositions which specify the requirements that deal with those phase’s impact in the suitable portfolio selection framework. Wheelwright and Clark (1992), in a study on the project management practices at the large manufacturing industry, pointed out where a strain on the human resources and the lack of the focus were the indications for the projects which were at the risk of failure. When enquired about other reasons, following explanations were highlighted (Figure 02).

Other than the two reasons, like the lack of understanding of the project significance and the lack of the focus, all the remaining problems could be regarded as a part of the PPM practices. Cooper et al. (2001) has revealed that the ‘project portfolio management is typically poorly handled’. Among difficulties that are associated with execution of effective PPM models and the methods were short of the strong gates for the Go/No Go decisions and as well many projects for limited resources that are available. Catherine P Killen (2008), the author examines the relationship between project portfolio management (PPM) capabilities and competitive advantage. Projects for the development of new products are of escalating importance in an increasingly competitive, globalized and deregulated environment characterized by shortening product lifecycles and dynamic markets. PPM capabilities aim to improve the success rates for product innovation activities by providing a holistic and responsive decision-making environment to maximize the long-term value of innovation investments across the portfolio of innovation projects. This research takes a wide view and investigates the overall organizational capability for the management of the innovation project portfolio. Findings support prior PPM studies and suggest a positive relationship between structured PPM capabilities and improved new product outcomes. It adds to the understanding of how PPM capabilities work with the resource base and contribute to competitive advantage. Project portfolio management (PPM) is a relatively new discipline of project management, which helps to organize and control the projects in company’s portfolio with aims to maximize the results of the projects, to balance portfolio risks and line up the projects with the strategic objectives of the company. (Rozita Petrinska, 2014) In a company, PPM is on a top level compared to project management, as the final goal of PPM is accomplishment of the strategic objectives through the projects included in the portfolio. Yet, different companies have different attitude towards the implementation of PPM, so PPM processes differ from one company to another.

The table 2 gave the results/consequences of not establishing proper PPM practices within a company. It further determined that PPM represents an ideal model for helping decision makers in framing situations for investing resources in projects, which have greatest impact on the company. The conclusion of the review study was that globalization, rapid development of technologies and some other factors influence the modern business environment and as a direct impact, the new business environment is determined by a lot of opportunities. However, the same factors make the business environment very competitive, challenging, and filled with various kinds of risks at the same time. Project portfolio management is the solution which best fits business strategies and maximizes the results of the projects. There is an obvious lack of information about implementation of integrated project portfolio management in companies

No PPM	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;	Bad projects are selected.	Commercial and technical failures

TABLE 02. Results of not establishing proper PPM Practices (Source: Moustafaev, 2011)

from developing countries that desperately needs to be addressed. Nowadays many companies are facing a number of the four biggest universal problems such as too many active projects, often double what an company should have; many of these are wrong projects that will not provide value to the company; projects are not linked with the strategic goals of an company and thus they do not meet the goals of the company; furthermore, even if every active project is a positive one, there is an overall imbalance in resource utilization, and in short and long term projects.

The main problem that was identified was evident wastage through improper selection of projects or their improper formulation, an undefined or unclear ROI. Projects are forced to compete for resources. (Rasiha Delilbasic , 2012). There is an unclear understanding of what project portfolio management is. Some units claim that the application of project portfolio management is in full pace; others show an interest in the discipline, conceding that they do not know enough about it; others view project portfolio management as just another technique of project management with a new label to what has been practiced for many years, namely project management. A successful project is strategic in nature because when a project is planned, its concept should contribute to the company’s objectives, goals, and mission and should be Standard in the way that the project can be managed. Moreover, it should also handle the market and other environmental factors, which have an impact on the project and the company. (Cleland, 1999). Every project manager is expected to understand strategy so as to make appropriate decisions and adjustments and also, they can be effective project advocates. Those reasons support the needs for project managers to understand the strategic management. The process of strategizing is encompassed in Project Portfolio Management as a whole. If a PPM process thoroughly encompasses these points, then it can be used as a very efficient model. Portfolio management practices were found to not only support managerial decisions, but also helped to take faster and better decisions towards product development and accelerate improvements in processes. (Paulo Augusto, 2011). The key benefits of PPM practices found in an Australian study were linked to enhancement in decision making, alignment to business strategies, maximizing resource usage and organizational risk management moreover the significant barriers to PPM practices were found to be internal politics and change resistance culture, disagreement on a common project prioritization method as well as lacking organizational management support. (Nick Hadjinicolaou & Jantanee Dumrak ,2017).

BEST PRACTICES OF PROJECT PORTFOLIO MANAGEMENT

Many organizations have different scales and parameters based on which they can work to make their organization successful. In the world of projectized environment, efficient tackling of the multiple projects right from inception to implementation is very important. These projects when handled with standardized procedures can lead to successful implementation and will contribute in the organization’s growth. Organizations striving hard for success will either follow the best practices of PPM in the run or will develop some sig-

nature processes based on the experience and expertise developed in handling the processes being in the field for so long. No amateur companies will try to develop their own signature processes unless they are backed by experienced professional or thorough knowledge of the processes. Agreeably, organizations should consider both best practices and create signature processes to sustain in the dynamic competitive world. (Gratton & Ghoshal, 2005). The difference between Best practices are uniquely summarized form the table given below:

	Signature process	Best Practices
Origin	It deals with 'bringing the inside out': evolves from a company specific history.	It deals with 'bringing the outside in': starts with external and internal search for best practice processes.
Development	Needs championing by executives.	Needs careful adaptation and alignment to the business goal.
Core	Values.	Share knowledge from across the sector.

TABLE 03. Comparison of Best Practices and Signature Process

Adapting the best practices sometimes may not help the organizations to reach on the top as some of the organizations may develop their own signature processes after years of following the best practices in the long run. Based on the literature review, following are the best practices of PPM followed by the successful organizations:

--- Awareness of PPM in the organization ---

Project portfolio management is critical for decision making, governance and to ensure the business objectives are supported by the right set of projects (Levine,2005). Project Portfolio Management (PPM) helps in maximizing the return on product development investments in any company (Cooper, 2000). As per (Cooper et al. 2001), the best players in the PPM are those as below:

- 1. Have the explicit and established method of the portfolio management.
- 2. The Procedure has clear rules and methods.
- 3. It treats the projects as the portfolio (by considering all the projects together and also treat them as a single portfolio).
- 4. It is regularly applied across all the appropriate projects.

Project portfolio management (PPM) is a relatively new discipline of project management which helps to organize and control the projects in company’s portfolio with aims to maximize the results of the projects, to balance portfolio risks and line up the projects with the strategic objectives of the company. (Rozita et al. 2013). There is an unclear understanding of what project portfolio management is. Some units claim that the application of project portfolio management is in full pace; others show an interest in the discipline, conceding that they do not know enough about it; others view project portfolio management as just another technique of project management with a new label to what has been practiced for many years, namely project management (Rasiha Delilbasic, 2012).

--- Project portfolio selection ---

Many companies have Project portfolio selection and associated action of managing selected projects throughout their life time as the significant aspects (Cooper, 1993). But there are regularly more projects available for the selection than that can be undertaken within physical and financial constraints of the firm, so selection must be made in making up the suitable project portfolio. Project Portfolio Management considers the complete portfolio of the projects a company is occupied in, so as to make decisions in terms of which the projects are to be given importance, and which the projects are to be added to or taken out from the portfolio (Reyck et al. 2005). There are a lot of relatively divergent methods that can be utilized to estimate, assess, and choose project portfolios . Scores of these techniques are not extensively used because they are too multifaceted and require much input data, they offer an inadequate

treatment of risk and uncertainty, they fail to identify interrelationships and the interrelated criteria, they may be too complex to understand and also use, or they could not be employed in the form of an organized process (Santos, B. L, 1989). Even though there is no short of techniques for project evaluation and the portfolio selection, there is a complete lack of a framework for organizing methods rationally in the simple process that keep up project portfolio selection procedure. Nowadays many companies are facing a number of the four biggest universal problems such as too many active projects, often double what a company should have; many of these are wrong projects that will not provide value to the company; projects are not linked with the strategic goals of an company and thus they do not meet the goals of the company. (RasihaDelilbasic, 2012). The process of creating the portfolio component mix with the greatest potential, under various constraints, is complex and knowledge consuming (Elbok and Berrado.2017) , Portfolio management practices were found to not only support managerial decisions, but also helped to take faster and better decisions towards product development and accelerate improvements in processes. The only issue point where the project was inconclusive was the ranking criteria for the projects. This shows that it becomes objectively feasible to theoretically rank projects using incomplete constraints without seeing what the outcome is. (Paulo Augusto et al.2011).

--- Alignment of PPM with business strategy ---

The objectives of project portfolio management suggested by Cooper et al. (2002) are well established in the project management literature (Artto, 2003; Killen et al., 2008). The main goals are: maximization of the financial value of the portfolio, linking the portfolio to the firm's strategy, and balancing the projects within the portfolio in consideration of the firm's capacities. Research on fit or alignment has been examined by different areas in management literature. The strategic fit of the project portfolio describes the degree to which the sum of all projects reflects the business strategy. Despite the acceptance of strategic fit as one of the major objectives of portfolio management, the literature on it is limited (Srivannaboon and Milosevic, 2006). Coulon et al. (2009) constitute that firms with a qualitatively high portfolio management achieve a higher level of strategic alignment. Hence, portfolio management has to achieve an optimal alignment of projects to each other and should only pursue projects that are in line with the business strategy. Still, there is not much literature on a theoretical construct strategic fit for project portfolios.

--- Project Portfolio Management Implementation ---

PPM is unthinkable without commitment and devotion of all members of the organization, and specifically, its senior executives. In fact, PMI’s (2006) The Standard for Portfolio Management devotes a section to the link between PPM and organization. Specifically, it describes roles of all actors involved in PPM – executive managers, sponsors, portfolio managers, programme managers, project managers, etc. These descriptions, however, are very generic and do not provide insights in how such system can function in practice. Yelin (2005) argues that the role of executives in the PPM processes is one of the determinants of PPM success. Firstly, it is crucial to start with a clear organizational structure of PPM. Within this structure all roles, accountabilities, sources of information and other elements are clearly defined. Moreover, the implementation of PPM practices comes with change in the organization. Because each organization

is different in terms of its maturity level and the ability to manage change, a planned phased approach should be used to implement PPM.

--- Resource utilization in PPM ---

Successful firms have been shown to have a systematic approach for their portfolio evaluation, decision-making and resource allocations (Cooper et al., 2002; Shenhar, 2001). Resource allocation and utilization must be interconnected with strategy. According to Hendriks (1999) resource allocation can be divided into five elements: long term resource allocation, medium term resource allocation, short-term resource allocation, links, and feedback. Problems in resource allocation rise with cross-functional projects covering several business units. The line units with business responsibility are not always that willing to share their best resources in cross-organizational projects. Careful allocation of resources is especially important when there are many simultaneous projects competing for the same specific competencies. The large number of projects, however, makes the allocation more difficult because delays in all other projects for which the same resource is scheduled. In case of external project deliveries, contracts of new projects must be negotiated so that resource demands fit in into the existing portfolio of projects without too much re-arrangement or re-negotiation with other clients to avoid conflicts and unnecessary competition in sharing resources between different projects, the resources should often be planned both at project and at portfolio level. One way to organize this is to have a resource leader in the organization that takes care of mapping the uses of resources.

--- Knowledge Management in Project portfolio. ---

Managing a project portfolio is a daunting task in today’s challenging times. The pending, ongoing, potential or dormant projects are all accumulated in a project portfolio in any organization. (Unger et al,2012;Levine 2005).Moreover the quality of project portfolio management relies on the quality of the knowledge shared between project managers and portfolio managers. (Lindner and wald,2011).The knowledge management in Project portfolio involves knowledge acquisition, different processes of personal and interpersonal knowledge exchange and adequate knowledge for PPM planning and prioritization process by the top management (Patanakul,2015).Professionals working in the organizations are assumed to work within knowledge sharing and knowledge management (KM) processes with stakeholders and PPM functions(Melo et al 2013;Mastriogiocomo et al. 2014).Jonas (2010),mentions that PPM relies upon unambiguous knowledge sharing processes to ensure projects within the organization to be managed properly to assure success. Knowledge sharing is a broad term used widely across many companies and institutions (Yang and Wu, 2008). Melo et al. (2013), distinguishes between tacit and explicit knowledge that is bit hard to understand as it is subjective and personal and difficult to share. The organization must provide a conducive environment to share knowledge so that the knowledge sharing between the source and the receipt is not lost. The six key attributes about effective PPM are identified (Patanakul, 2015) in the successful study of PPM practices are:

- Strategic Alignment: Alignment between the organizational strategy and portfolio.
- Expected value: The ability to estimate and maximize the value of projects.
- Adaptability to internal and external exchanges: The ability of the Project Portfolio Manager to address risks and uncertainties.
- Project visibility: The degree of visibility that a project has in the organization.
- Transparency in portfolio decision-making: Explain the reason behind portfolio decisions to the stakeholders.
- Predictability of the project delivery: The ability to predict project performance.

Patanakul (2015) further stresses the need of conscious knowledge management (KM) in order to meet all six attributes.

--- PPM tools and techniques ---

The decision making in the dynamic times has to be quick and reliable. The different software tools used in Project portfolio management have a great impact on the way the business is carried out. (Killen et al. 2008). The effectiveness of PPM can be substantially improved using dif-

ferent software tools and techniques. It supports in decision-making and can be more accurate. As the pressure to deliver higher ROI is constantly increasing, many organizations are turning to PPM software for the project investment visibility they need to make the best project decisions. Levine (2005) presented common features that are often included in these kinds of software:

- A database for proposed and active projects.
- Project Selection criteria and weight factors different parameters in the criteria.
- A database for financial and resource allocation data.
- Tools to compute potential project benefits, incorporating risks and costs.
- Project prioritization and ranking.
- Project selection.

These kinds software also often provide progress-reporting, communication of key project data through dashboards along with cost and benefit tracking. These features allow the users to review the portfolio of projects and help them to make key financial and business decisions. Levine (2005) described that many of the PPM software solutions were merely an addition to other existing software that was originally intended for critical path method, earned value analysis, risk management etc. Nowadays there are many software solutions that organization can implement in order to support their PPM practices. But these software solutions are large, complex and expensive. The software providers seem to be competing to include as many features as they can, which results in higher complexity and prices. Symmons (2009) illustrated in his article what total economic impact the PPM software can have on organizations, he claims that these investments could return over 255% ROI. That of course depends on the organization, but he claims that organizations, especially the ones working with project that are expensive and sensitive to market change can benefit significantly from investing in PPM software. Moreover, the ease of using the software and regular trainings on these tools is found to be very useful.

--- Risk Management ---

There are many authors who have related effective risk management to organizational success. Kwak and Soddard (2004), mentions that organizations that have prominent risk management processes are comparatively more successful to others. Cost factor and justification may become a hurdle for risk management implementation in some organization. The Project Management Institute (PMI) proposes four process steps for risk management in project portfolios (PMI,2008b):

- Portfolio risk identification.
- Portfolio Risk Analysis.
- Risk prevention.
- Risk monitoring.

The risk management should be an inherent part of PPM process. A well-defined risk management process will help the manager to recognize and resolve critical problems in time and will increase the probability of success. According to empirical research conducted by J. Teller and A. Kock (2012) on German industries, they found a mediating effect of risk management quality between risk manage-

ment and project portfolio success. They described risk management quality by considering two dimensions.

- Risk Transparency.
- Risk coping capacity.

According to Rolf Olsson (2007), Risk analysis in any company can be done in three steps -Analyzing project issues between projects, Analyzing one project's issues with all the projects' risk data (repeat for all projects) and Including risk data from all projects into the analysis. The last step in the analysis methodology is to compare risk data from different projects. This analysis is the most time-consuming analysis, mainly because of the large amount of data. Although this methodology only analyses the adverse outcome of uncertainty, i.e. risk, it is implied that this methodology also considers opportunities.

IMPACT OF PPM ON BUSINESS PERFORMANCE

Most organizations traditionally follow merely financial measures to evaluate and assess their business success. But as many studies have shown these measures alone are insufficient indicators for a firm's long-term success and led to the development of multi-dimensional success measurement models. Accordingly, it has been proposed in project management research that project portfolio management and its success should also be examined in a multi-dimensional way on the project, portfolio, and business level (Blomquist and Müller, 2006; Martinsuo and Lehtonen, 2007; Müller et al., 2008). According to Shenhar et al. (2001) the success assessment of projects and therefore also of portfolios must cover the performance during the execution as well as the success of the result. The business success of any organization can be categorized into two, short-term (1) economic success and long-term (2) preparing for the future adjusted to the portfolio perspective. The economic success dimension consists of the two subsets market performance and commercial performance (Shenhar et al., 2001). This dimension immediately and directly addresses the impact the project portfolio may have on the firm. In the new product development literature, it is often referred to as new product success measure (Killen et al., 2008). Market success describes the extent to which sales objectives like market share or sales volumes are achieved (Griffin and Page, 1996; Shenhar et al., 2001). These goals are often assessed in comparison to competitors' performance to account for environmental changes. Commercial success measures are derived from the classical financial management criteria like ROI, profit, or break even (e.g. Griffin and Page, 1996) and are mostly compared to the initial objectives. Griffin and Page (1996) identify and analyses in their study on project success measures a broad set of market and commercial criteria and constitute that the combination of measures depends on the firm's situation and strategy. Thus, there is no agreed standard upon market and commercial measures neither for projects nor for portfolios. The firm's economic success of the project portfolio considers the share of revenue generated by new products compared to competitors and the overall revenue share of new products with and without predecessor products (Brown, 1998; Killen et al., 2008). In addition, the overall compliance of products with market goals, return targets, and amortization schedules is assessed (Griffin and Page, 1996). Preparing for the future is the longest-term dimension and addresses the preparation of the organization and the techno- logical infrastructure for prospect needs. This dimension examines the long-term benefits and opportunities from the projects, which are mostly indirect

and can only be realized long after the projects, have been completed. Typical perspectives highlighted by Shenhar et al. (2001) are: creation of new markets, development of new or improved technologies and processes, building of new skills and competencies. Furthermore, the ability to react to external challenges like technology or market changes is examined. Like economic success, this dimension is also applicable to all different kind of projects respectively portfolios. The managerial focus of firms has shifted towards the management of project portfolios as a whole and towards the effective link of this to the overall business purposes (Artto and Dietrich, 2004; Dietrich and Lehtonen, 2005). In several latter studies Cooper et al. (2000, 2004a, b) examine the achievement of their suggested objectives of project portfolio management and give partial support to a positive relation between portfolio-level results and business- level results (Martinsuo and Lehtonen, 2007; Müller et al., 2008).

CONCLUSION

Project Portfolio Management is comparatively a new discipline of project management that helps in organizing and controlling the projects in the given portfolio, which aims to maximize profits, balancing the portfolio with relating up with the company's strategy. Yet many authors have reservations about the clarity with which the PPM implementation is taking place effectively. Rozita Petrinska (2014) mentions about companies having varied attitude towards PPM implementation. Moustafaev (2011) presents results of short term and long-term effects for not establishing proper PPM practices in company, which may lead to commercial and technical failure of the projects. Companies studied in North America and Australia revealed the gap between PPM approach and implementation. The business strategy works well only if it is implemented properly and further will ensure success to the company. (Cooper et al 2001, Kleinschmidt et al 2008, Blomquist 2006). Moreover, lack of proper communication between top, middle and lower management further lowers the effectiveness of PPM implementation (Cooper et al 2000, Rasiha Delibasic 2012, Reycket 2005, Hernandez 2011, Supachart 2013). Scarce resources too hamper the PPM implementation. (Cooper and Edgett 1999). Decision making with right tools and at right time can increase the sustainability of any organization for a very long time. Project Portfolio Management in that regard will have an impact on the success of any organization. Establishing signature processes or to follow the best practices of PPM, may have its pros and cons but in this dynamic world where businesses are changing fast one has to really do an introspection in their own organization and decide upon it. ♦

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