Future Trends in Project, Programme and Portfolio Management 2016

Proceedings
International Expert Seminar in Zurich in February 2016

IPMA international project management association

Future Trends in Project, Programme and Portfolio Management 2016

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the Swiss Project Management Association (**spm.**)

in cooperation with
the International Project Management Association (IPMA®)

Edited by
Hans Knoepfel and Jesus Martinez-Almela

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Preface

Hans Knoepfel

The International Expert Seminars of IPMA started in the Seventies of the last century and were held every year in the Eighties at the Gottlieb Duttweiler Institute (GDI) near Zurich. With the IPMA Expert Seminar 2008, IPMA and spm had decided to revive this kind of competence development event for the project management experts.

For the Expert Seminar 2016 the project team chose the following four themes for investigating new trends in project, programme and portfolio management:

- Business orientation of projects

  In the Business Orientation Theme questions are, for example, how projects can be designed and controlled for business success and sustainability, how can it made sure that the future (!) business, operation and maintenance requirements are taken into account during the project life cycle, how the (future) realisation of the benefits will take place.

- Governance, permanent organisation and project organisation

  What is the influence of the new PP&PM government conditions (strategy, business orientation, portfolio managers, programme managers, PMO, users, operators, stakeholder management)? There may be declining freedom of the project management due to the growing influence of the organisational context with its uncertainty (market, politics, environmental regulations and incentives.

- Classical vs. Non-classical project management

  With the Theme classical vs. no-classical PM we ask if there is something like "classical PM (Mozart and Beethoven)" e.g. iron triangle, ICB Version 3, PMBOK Guide. What are the opportunities and risks of non-classical PM (like agile methods, target changes, values of architecture, compliance to business ethics?

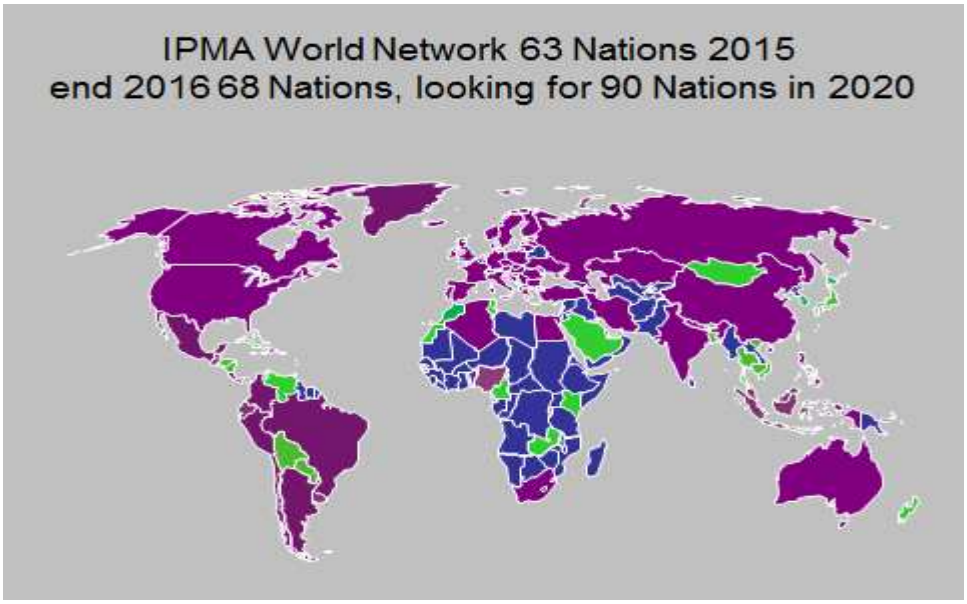
- Strategic Project Management

  Contextual aspects of individuals working for projects, programmes and portfolios (3P) have gained importance over the technical aspects. Although the 3P execution efficiency and effectiveness is critical to their success, the way the 3Ps are related to its context e.g. strategy implementation is crucial for the long term success of an organization. Top performing organizations are ones willing to pursue standardization, talent management and strategic alignment.

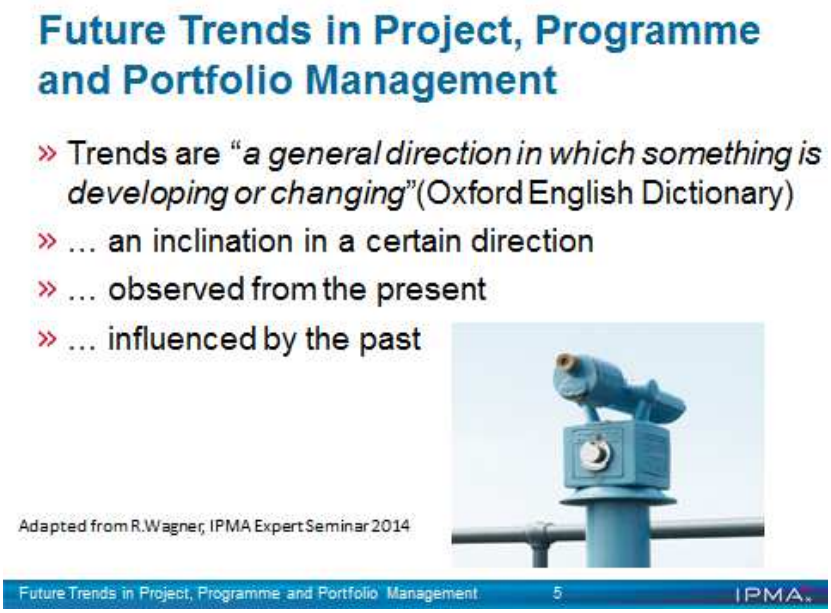
The participants received this invitation very well. They presented excellent papers, identified and discussed major issues and some landmarks when investigating the trends for the themes.

Future Trends in Project, Programme and Portfolio Management

Jesus Martinez-Almela

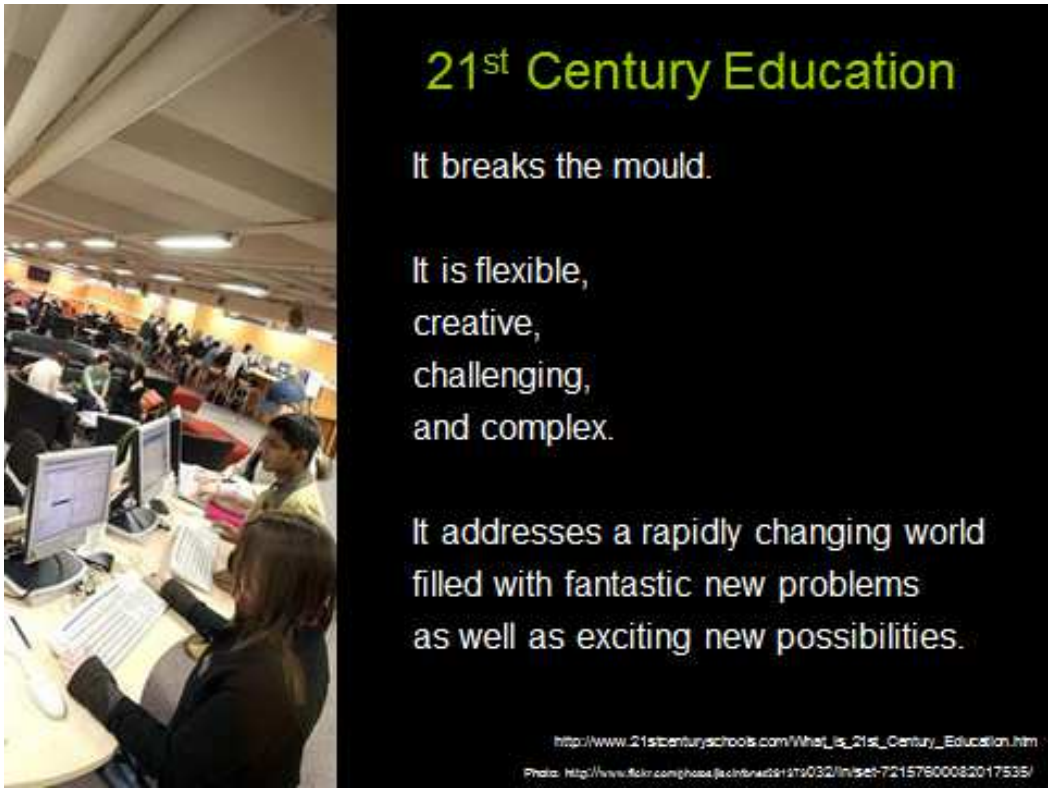


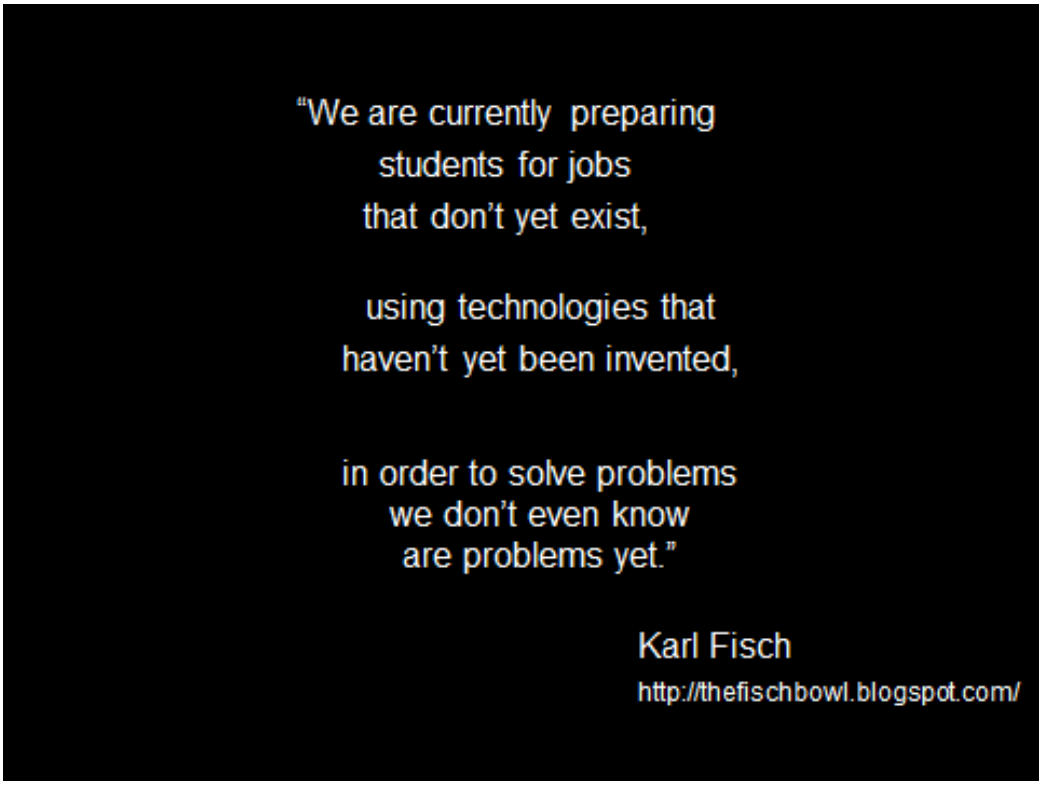
IPMA's Vision: Promoting competence throughout society to enable a world in which all projects succeed



MindQ Project Viewer: Project Management Global Trends in 2016

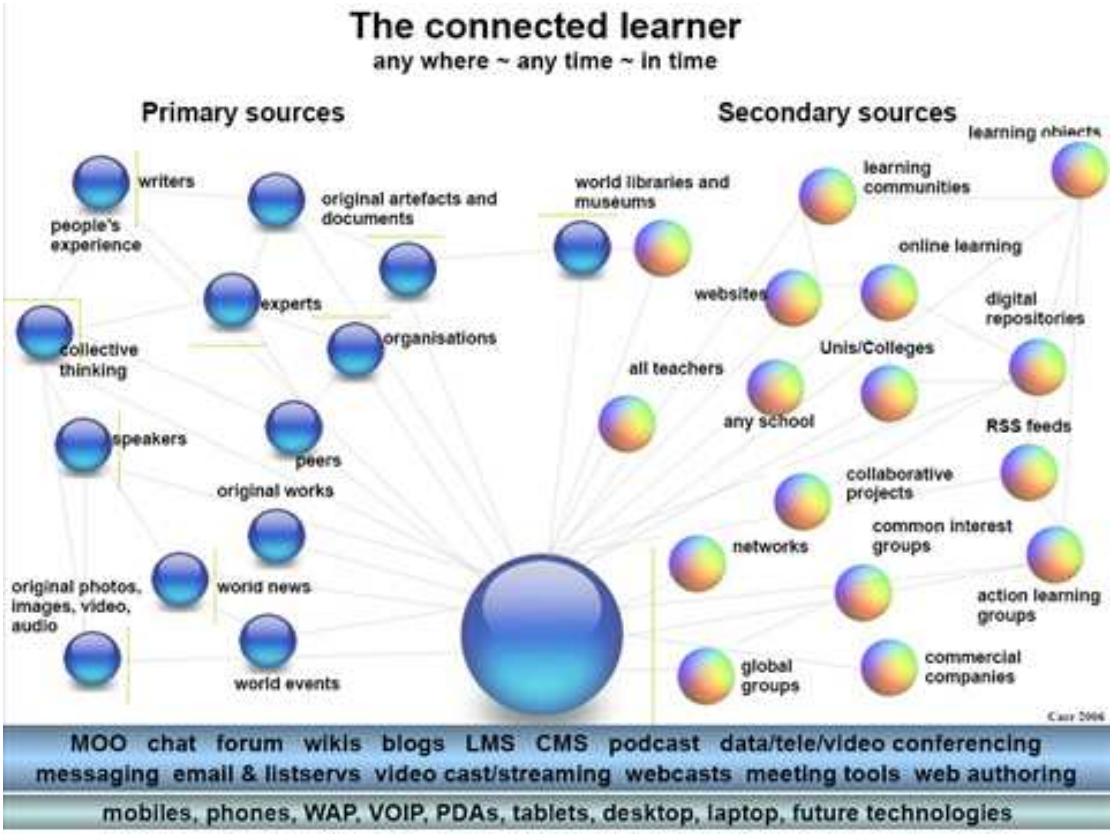
"2016 is the year project management will finally get the 'digital' prefix we've been eager to add for a few years now. Serious technological advancements, covering not only project and portfolio management software solutions, but also cloud storage devices, integrative cross-platform services, and the 'bring your own device' to work trend are definitely reassuring that digital project management is the new project management."

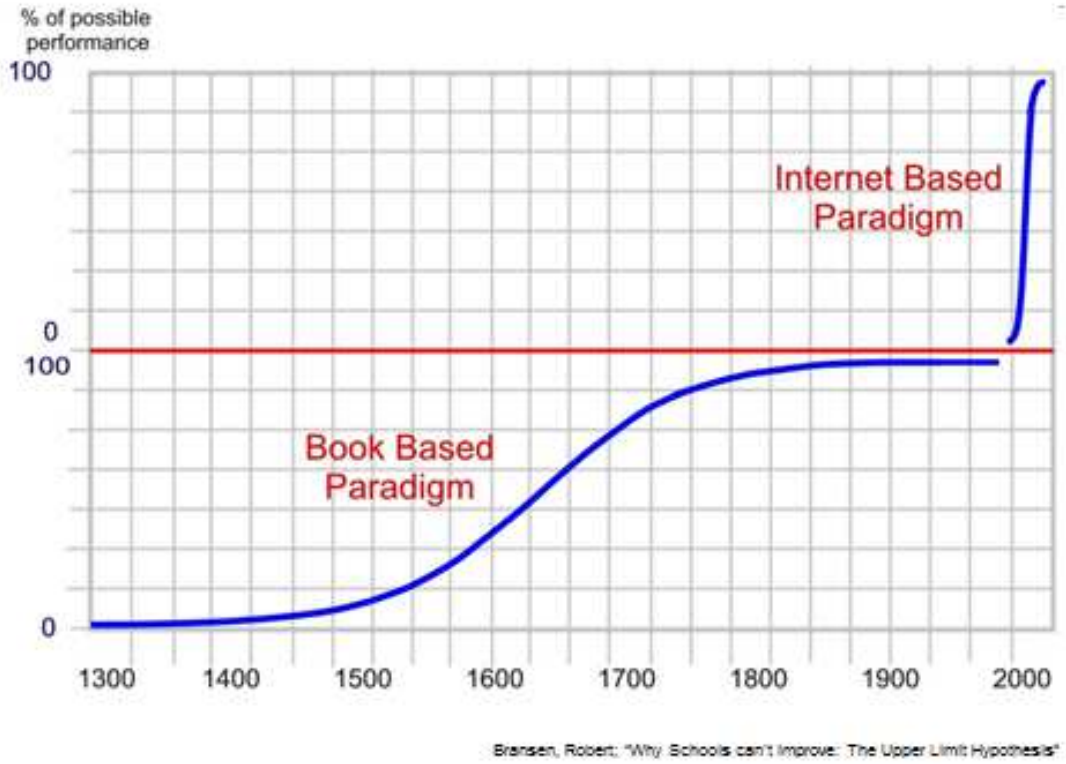

21st Century Education
It breaks the mould.
It is flexible,
creative,
challenging,
and complex.
It addresses a rapidly changing world
filled with fantastic new problems
as well as exciting new possibilities.
http://www.21stcenturyschools.com/What_is_21st_Century_Education.htm

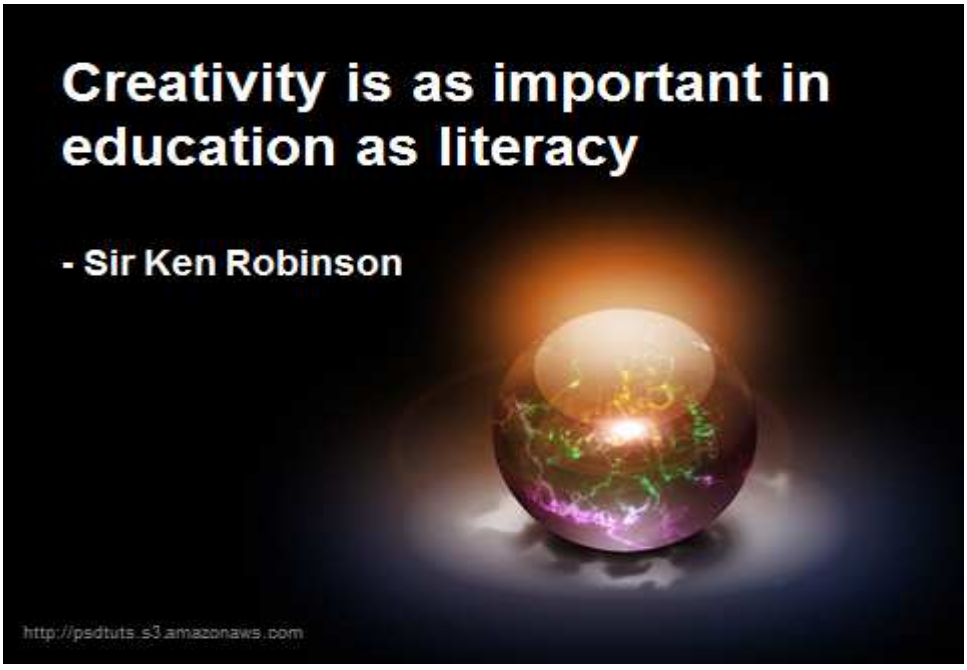

"We are currently preparing
students for jobs
that don't yet exist,
using technologies that
haven't yet been invented,
in order to solve problems
we don't even know
are problems yet."
Karl Fisch
http://thefischbowl.blogspot.com/

Education in Project Management

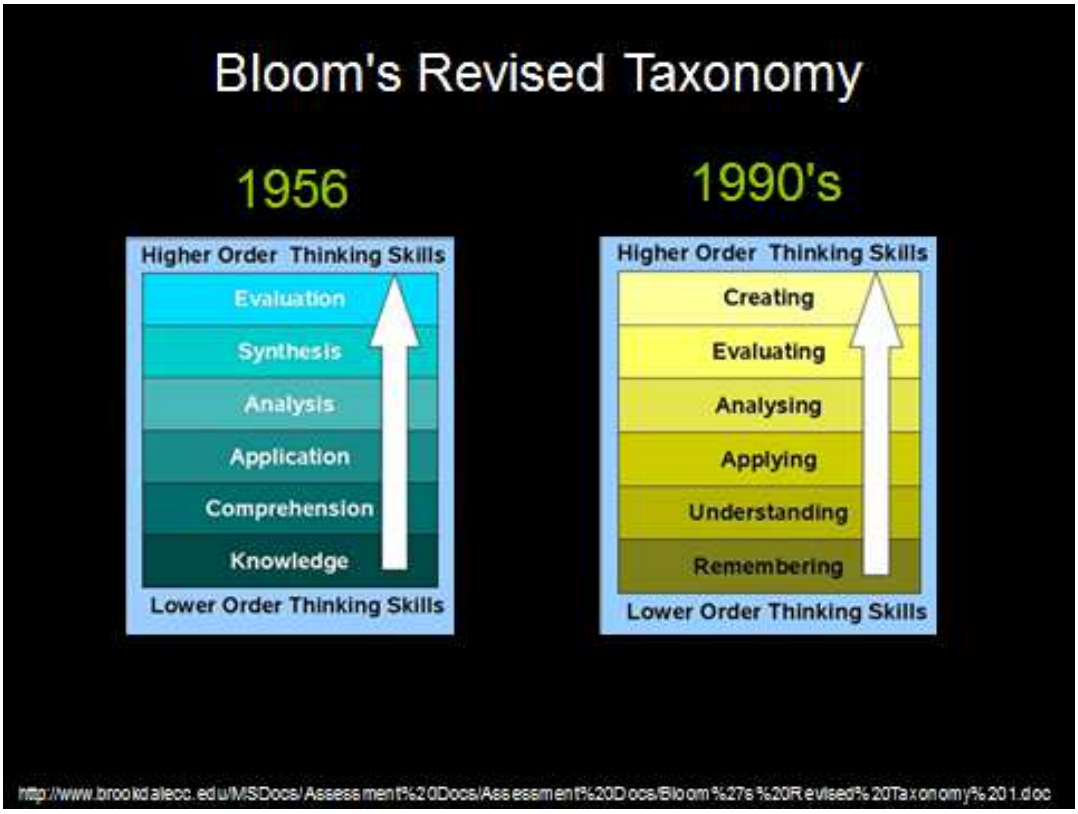
- ✓ **Methods of learning** and teaching will improve tremendously in the next years;
- ✓ Main driver of **this trend is the growing demand from all sectors of society**, from industry as well as public administration, for better and more standardized project management skills, abilities, and knowledge;
- ✓ **Demand for higher order capabilities** for coping **with more complex projects and environments;**
- ✓ **New learning tools and applications** as interactive gamification to develop project management skills will be created;
- ✓ **For all domains and areas of competences** (perspective/contextual, people/behavioral and practice/technical) **project management teaching and learning tools will be developed.**
- ✓ **This will lead to a complete new business area facing** better-qualified project, programme and portfolio managers & directors.

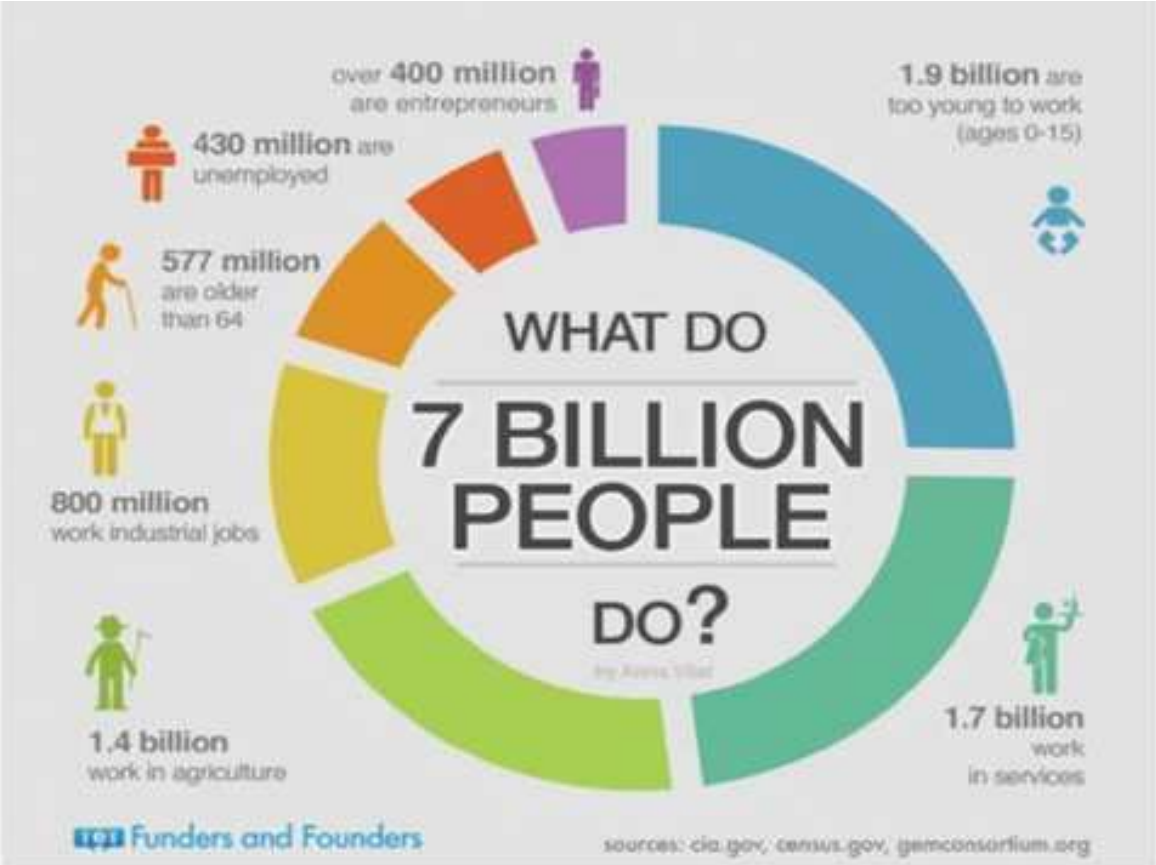




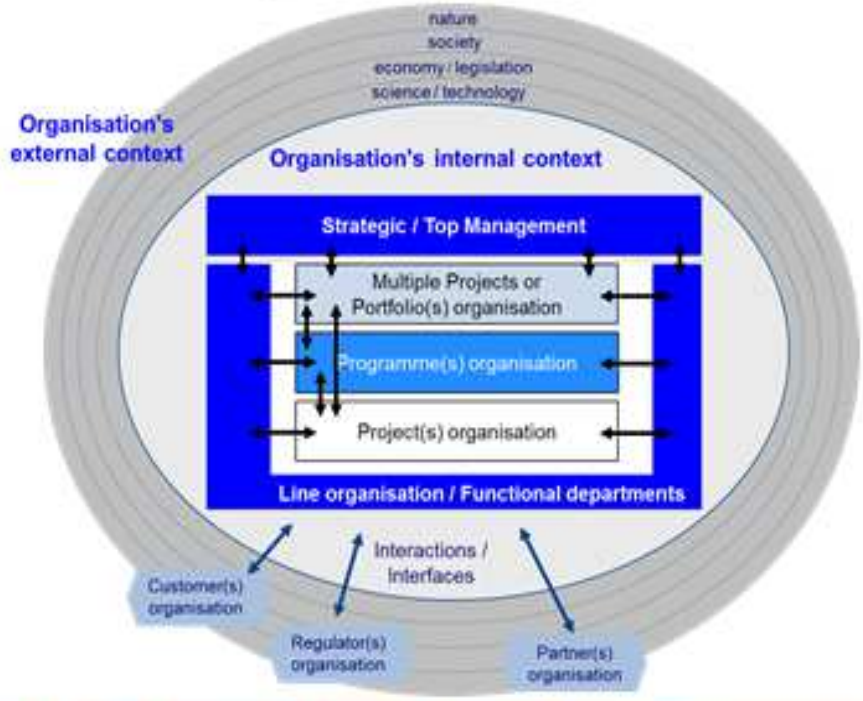


Technology is merely a *Tool* for *Learning*


Bloom's Revised Taxonomy
1956
Higher Order Thinking Skills
Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge
Lower Order Thinking Skills
1990's
Higher Order Thinking Skills
Creating
Evaluating
Analysing
Applying
Understanding
Remembering
Lower Order Thinking Skills
http://www.brookdalecc.edu/MSDocs/Assessment%20Docs/Assessment%20Docs/Bloom%27s%20Revised%20Taxonomy%201.doc


over 400 million are entrepreneurs
1.9 billion are too young to work (ages 0-15)
430 million are unemployed
577 million are older than 64
WHAT DO
7 BILLION PEOPLE
DO?
800 million work industrial jobs
1.4 billion work in agriculture
1.7 billion work in services
Funders and Founders
sources: cia.gov, census.gov, gemconsortium.org

Contextual factors are getting more and more important…



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Future Trends in Project, Programme and Portfolio Management

» WHAT ARE WE DOING IN THESE TRENDS FOR PROJECT PROGRAMME AND PORTFOLIO MANAGEMENT EDUCATION AND TRAINING ?

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IPMA E&T Curriculum for ICB4

(June 2014-January 2016):

By means six steps processes:

» Step 1: Identified learning outcomes
» Step 2: Established learning topics
» Step 3: Designed learning paths
» Step 4: Designed modules
» Step 5: Designed subject courses
» Step 6: Designed PM programmes

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Content of the *ICB4 for Education & Training*

- Introduction (competency-based curriculum definition, development process, terminology issues)
- For each competence element of the ICB4:
  - Learning outcomes catalogue (around 200 learning outcomes - LOs)
  - Learning topics list (20-25 topics)
  - Learning paths (LOs group for each learning topic)
  - Modules list (10-15 modules)
  - Guidelines for defining subject courses, with syllabus examples
- Guidelines for defining PM training or education programmes, with curriculum examples.
- Guidelines for deploying IPMA Curriculum locally. Examples of specific courses and programmes developed/redesigned using elements of ICB4-based curriculum

IPMA E&T Curriculum for ICB4

Figure 1. Typology of the PM programmes and courses

IPMA E&T Ecosystem Benefits

- **Education & Training:** IPMA shares Curricula for different education levels based on its Global Standards and offers a registration system for various offerings.
- **Publications:** Through IPMA you have access to a peer-reviewed, highly ranked journal (IJPM) and make your own publications available to an international audience as well.
- **Research:** IPMA facilitates PM-related Research activities
- **Networking:** IPMA encourages a peer-to-peer / regional and international exchange of experiences, thus makes available the state-of-the-art of project management and engages specific target groups (e.g. Young Professionals) on an global level to increase professionalism in all regards.

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IPMA's focus for the future

- IPMA leads the **evolution** of the PM profession and the maturity of its practice.
- Advanced, **Competence**-based certifications for a continuous competence development.
- A unique **federal structure** which thinks globally and acts locally, serving local needs.
- Recognize and respect **cultural differences**.
- **Alliances** with those having complementary visions.
- A **Partner** for Project Management knowledge, competence and performance.

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Fifteen future trends for Project Management in 2025

Yvonne-Gabriele Schoper, Hans-Georg Gemünden, Na Mi Nguyen

Abstract

Hardly any management discipline changed as much as project management in the last twenty years. From a tool-oriented approach it developed into a holistic competence-based management discipline.

Is this change ending - or will project management further develop in the next decade? There are singular hypotheses concerning future aspects of project management, however a summary and compelling conclusion is still missing.

Contextual changes in the economic, social, political, ecological and technological areas pose a variety of challenges for project management, which will change its diffusion and application, and also transform the way how project management will be performed, which meaning it will have, and which impacts.

In this paper we present 15 hypotheses about the future of project management as perceived by an expert panel of practitioners and researchers.

1. Introduction

Project management experienced a significant change in the last twenty years. From a tools and methods oriented approach it developed into a holistic contextual, behavioral, and technical competence-based management discipline aiming at delivering long-term sustainable value for a variety of stakeholders in their professional and private roles, for private and public organizations, and for society as a whole.

Is this change ending - or will project management further develop and transform in the next decade? There are several singular hypotheses concerning future aspects of project management, however, a summary of the different trends and a compelling conclusion is still missing.

Contextual changes in the economic, social, political, ecological and technological areas pose a variety of challenges for the field of project management, which will change its diffusion and application, but which also transform how project management will be performed in the future, which meaning it will have, and which impacts.

Our expert survey is an exploratory study that tries to cover and systemize a broad range of expected future trends in project management until 2025, which have derived from a panel of experts in practice and in academia.

It must be emphasized that the study concentrates on the changes in project management *practice*, as in *academia* a plethora of articles have analyzed how project management research has developed. The object of analysis were leading management journals (e.g. Artto, Martinsuo, Gemuenden & Murtoaro, 2009, Kwak & Anbari, 2008, 2009, Söderlund 2004, 2011), specialized project management journals (e.g. Crawford, Pollack, and England, 2006, Hanisch & Wald 2012, Kloppenborg & Opfer 2002), and both types of journals and additional publication objects (e.g. Pollack and Adler 2015, Svejvig and Andersen, 2015).

If researchers better understand which practices project management will be needed in the future, they can deliver more valuable contributions for project management practitioners – which is important in an applied discipline.

2. Research Methodology

In this study we used a qualitative approach in order to get a broader overview. Thus, we asked two open questions. We particularly paid attention to sample a diverse group of experts concerning the criteria nationality, age, gender, and focused on considerable experience in project management in practice and/or in research.

We asked N=338 international experts from the two different stakeholder groups: 169 project management researchers and 169 international practitioners about their expectations concerning the future trends in project management. They were contacted via personalized emails and via a standardized questionnaire during the IPMA World Congress 2014 in Rotterdam.

The questionnaire contained the following question:

> *"Please describe the five trends in project management you consider the most important ones and which you expect will likely occur until 2025."*

To confirm that all participants have the same understanding of the key term trend, we gave the following definition at the beginning of the survey:

> *"A trend describes a change of something over a certain period. Thus, feel free to either name changes in requirements for successful project management, or the way how projects are managed, or the diffusion of project management practices in our society."*

By February 2015, a sample of n=82 completed and useable questionnaires were received, n=26 from the group of the academics and n=56 from practitioners, which corresponds to an average response rate of 24.3%.

Table 1 shows the distribution of the survey participants concerning their nationality.

Country	Number of Respondents	Country	Number of Respondents
Australia	9	Israel	1
Austria	2	Italy	4
Brazil	4	Latvia	1
Canada	3	Netherlands	5
Chile	3	Norway	1
China	3	Poland	3
Croatia	2	Portugal	1
Finland	2	Sweden	4
France	5	Switzerland	1
Germany	11	Ukraine	1
Hungary	1	United Kingdom	7
Iceland	1	USA	3
Iran	2	n/a	1
Ireland	1		
Total 82			

Table 1: Distribution of the survey participants per country

The national cultural origin is one aspect of diversity of the participants, which is one criterion for an international study. The distribution of the participants per continent is that the majority of 67% are European, 15% are from the Americas, 12% Australian, and 6% Asians.

The second aspect of diversity is the *gender* distribution of the participants: n=8 or 10.2% of the participants of this study are female: four women are from the group of practitioners and four women are academics.

3. Results of the study

The analysis of the data produced the following 15 trends which are presented in figure 1. We describe them in the following chapters by a short definition, in addition to their main drivers and barriers as well as the possible implications for the development of project management. The direct citations from the experts participating in our trend survey demonstrate their thinking and underline our conclusions. In the last chapter of this article, we will compare the relevance of the trends for researchers and practitioners.

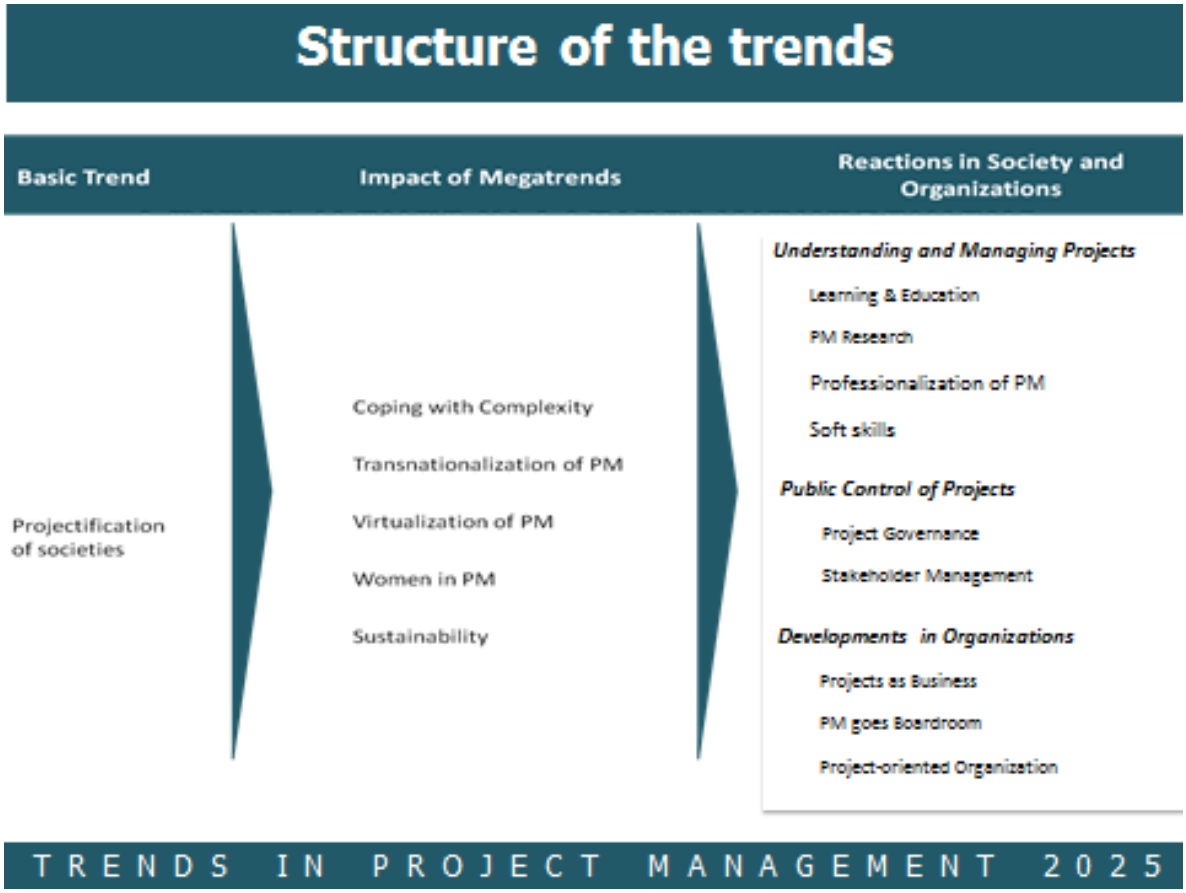

Figure 1: Overview of the 15 future trends in project management until the year 2025

3.1 Projectification of Societies

Projectification of societies is defined as the degree of diffusion of project management in all sectors of the societies (Midler, 1995; Lundin and Midler, 1998; Packendorff and Lindgren, 2014). Indicators of this trend are the time and money spent in projects as well as the amount of economic, cultural and social benefits and losses caused by projects. However these indicators are not sufficiently measured so far (Wheatley, 2004). Further indicators are:

- Increasing acceptance of project management practices in society (e.g. Jaafari, 2003; Hodgson, 2002)
- Change of the requirements which projects and project management master (e.g. Hoorn, Konijn, van Vliet, van der Veer, 2007; Morkos, Shankar, Summer, 2012; Fu, Mingjang, Chen, 2012)
- Change of the working styles in which projects are carried out (e.g. Lewis, Welsh, Dehler and Green, 2002; Turner and Müller, 2005; Müller and Turner, 2007; Shenhar, 1998)

- Change of the solution areas of how individual projects can be managed
- Change of the project management system that is focused on the entirety of projects carried out by one or several organizations (e.g. Howell, 2011)

Over the last decades a steadily increasing amount of value creation of companies has been generated by projects (Walter, Hofmann and Rollwagen, 2007; Turner, 2009; Winter and Szczepanek, 2008; Mir and Pinnington, 2014).

The participants state that although project management as a "management innovation" already reached a high degree of diffusion, it will continue to grow. This means that increasingly more sectors of the societies will implement the methodologies of project management for solving their complex unique tasks. Within companies the value creation will shift from operations to projects. "Projectification of societies" means that not only in professional sectors as research, health care, politics and public administration, the methods of project management are applied - but also in private life. An implication of this trend is that people spend more working and private time with and in projects. We are on our way from a project economy to a project society.

Project management is on its way to a ubiquitous social technology that all leaders should be able to master, and is part of all kinds of management and leadership education. Project management is consequently following the typical life cycle of a technology from a pace-maker technology into a basic technology.

However with the increasing application also simpler and fewer demanding management tasks are be solved with project management technics. This *trivialization of project management* can be described as *"projectiflation"* (a short form of "project inflation", first used by Midler, 1995) and should not be neglected if the relevance of project management is to be evaluated. Another consequence of "projectification of societies" is that *the diversity of the project tasks and project management approaches will increase.*

Drivers for this trend are the post-industrialization of the societies, which creates more complex tasks, the new technologies enabling and creating new forms of collaboration as well as the changing values of generation Y that may foster and transform project management in the future.

The implication of the trend is that PM will become a basic competence for everybody: not only engineers and managers are supposed to know the techniques, but also professionals that have no contact with project management today like in the health or education sector. However, as one size does not fit all, project management will become more elaborated and diversified. New phenomena will be included in project management.

3.2 Coping with Complexity

The Complexity of a system is defined by the number of elements of a system, the amount of relationships between the elements, the dynamics of the elements and their relationships (Ulrich, Fluri, 1992). Complexity is a characteristic of a system where the overall behavior

cannot be completely described although there is complete information about all its individual components and its mutual interdependencies (Härtl, 2008). Particularly projects are characterized by the diversity of the affecting factors and the extent of their mutual interdependencies and are therefore complex.

The tasks to be coped with are becoming increasingly complex (Jaafari, 2003; Cicmil et al., 2009). This derives e.g. from the megatrends globalization and urbanization but also from increasingly complex systems technologies. As a consequence the budgets of the so-called "megaprojects" are increasing (Flyvbjerg, 2014). However, many of these megaprojects fail, which leads to the question how to improve the management of these projects and how to cope with their complexity.

Research on complexity in projects has a long tradition, and many authors developed designs to conceptualize and measure the complexity of projects (He et al., 2014; Lu et al., 2014). These approaches show that complexity is not only driven by the size and volume (Atkinson, 1999) but also by the number of stakeholders involved in the project, and the ambiguity of their expectations (PMI 2013, Figure 2a, p.4).

In addition projects have to cope with an increasing uncertainty e.g. concerning technological developments, regulatory changes, competitive moves, and changing customer requirements. To better react with these circumstances particularly in the area of ICT (Information and Communication Technology) agile methods derived. The experts of our trend study foresee that these methods will further develop to hybrid methods integrating the classic procedures with agile concepts.

Further implications of the trend "Coping with complexity" could be that:

- Collaborative methods will increase
- Standardization, modularization and integrating tools will proliferate
- Big data, simulation and statistical analysis tools will augment
- Systemic approaches will be increasingly demanded

The opportunity of better coping with complexity is the more efficient and effective handling of the project tasks which again leads to a competitive advantage for the organizations as well as for the national economies.

3.3 Transnationalization of Project Management

In international management "Global orientation" is defined as the alignment to the world markets with consistent standardized concepts. Hereby, local, lingual, cultural, or religious differences are not considered. The resulting homogeneous standardization of products, processes, services, communication implicates the effects of economies of scale and learning curves, which leads to cost advantages and global brands. However, this approach neglects the heterogeneity of individuals, organizations and cultures. Due to these disadvantages the concept of global orientation was developed further to the transnational orientation concept.

Transnationalization combines the advantages of the global standardization with the locally differentiated adaption. Transnationalization considers the diversity of individuals, groups, organizations and cultures as far as possible. *Transnationalization of project management* combines the integration of standardized global project management processes of individuals, groups and organizations interacting on a multinational level with the advantages of the differentiation according to the local requirements. Such a mass customization of processes follows the metaphor "think global, act local". Transnationalization of project management follows the objective to adopt the global project management standards flexibly to the local needs of the organization, subsidiary, or local transplant.

Transnationalization of project management is applied in the area of locally dispersed project work. This leads to a co-operation in virtual project teams who consequently need supporting communication technologies (chat rooms, skype, video conferences, etc.) and knowledge integration tools. Moreover, it applies in intercultural diverse project teams, leading to a growing demand for intercultural trainings and intercultural mediation.

Drivers of this trend are the globalization itself, international alliances, global organizations, global standards (in project management: ISO 21500, IPMA ICB® 4.0, IPMA OCB® 1.0 of IPMA, PMBOK® of PMI) and new technologies for e-commerce, transportation, communication, knowledge management, and distributed information processes.

Barriers for the trend are political and economic crises, international rivalry, and the increasing disintegration of traditional cultures, societies or organizations.

Implications of the trend *transnationalization* could be:

- the so-called "new cosmopolitans", persons with international background who act as boundary spanners in international project teams,
- dispersed and culturally diversified project teams,
- the challenge for project managers to cope with the conflicting interests of the diverse multiple international stakeholders.

These challenges lead to the demand for increasing and profound intercultural competences of project managers.

3.4 Virtualization of Project Management

We define *"Virtualization of Project Management"* as managing projects increasingly through ICT support. This can lead to an increase of efficiency, effectiveness, productivity, and scalability of project management. Herewith it is possible to work on even more complex projects, as the complexity of projects grows parallel.

For businesses, one of the main advantages that virtualization can provide is the streamlining of project management efforts to integrate new technologies and applications. Virtual machines can ease to manage, maintain and replicate, creating test environments and scenarios for improved troubleshooting and strategizing. In return, project management

efforts can be enhanced to establish stronger growth and efficiency as a whole. Virtualization and the deployment of new solutions such as applications virtualization can keep project managers on track regardless of location and boost the efficiency, ability and scalability of their workloads to meet tertiary needs such as remote access and mobile support (Infrascience, 2014).

The enabler of this trend is the application of IT in project management, e.g. by the possibility to simulate project processes.

Drivers of the increasing virtualization of project management are:

- The capability of handling Big Data in milliseconds
- Fast communication enabling working in dispersed virtual project teams
- Modeling, simulation and automation of project management processes
- Visualization of processes

Barriers for this trend could be e.g. the misuse of ICT in addition to an increasingly growing resistance of the people against ICT.

Implications of the trend virtualization of project management could be new governance standards and a call for stronger leadership to better handle virtualization. Reasons for this are the increasing egoism and opportunism in using ICT, the call for privacy and security of information and the information overload.

3.5 Women in project management

In the past decades, one of the most significant labor force trend was the increase of women within management positions in public, private and government sector organizations (Catalyst, 2014; Ely et al., 2011).

The trend *"women in project management"* is defined as the growing amount of women in all stakeholder functions, from project manager to senior manager to project contractor. An increased amount of women leads to new approaches how projects are carried out and managed.

> *"Women in project management: the increasing amount of women in managing and leading projects, programs and portfolios will change the way how projects are managed in the future, but also the evaluation criteria for project managers."* [1]

This involves the leadership style, communication style, meeting style, team composition and development, and the cooperation culture when people are dealing with complexity, coping with challenges and risks.

Project management has been characterized as a "macho profession" (Cartwright and Gale, 1995). As the profession confronts the growing need to manage expectations, relationships and trust, this style of behavior is challenged. As the profession evolves, scholars are noting a

[1] Expert statement from our study.

shift from a discipline based on technology and control to a focus on interactions and learning. This trend towards accepting the ‘‘softer’’ side of project management appears to correlate with the increasing acceptance of feminine strengths legitimized by literature in organizational theory (Neuhauser, 2007; Buckle and Thomas, 2003; Thomas and Buckle-Henning, 2007).

This trend is shown by the increasing amount of women under 30 years working as a project manager: this group represents with 26% the fastest growing age group of all members at the German project management association GPM (Schoper, 2014). The same development takes place in the UK: A study of British project managers documents that the share of women in project management has increased from 25% in the year 2008 to 30% in the year 2014 (Arras People, 2014). Female students in project management increased in the UK to 53% (Arras People, 2014). Therefore, we conclude that the amount of women in project management will further increase in the next 10 years, up to 35 % or 45% depending on the influence of the barriers, and the attractiveness of other management areas for women. With a growing number of women in the field of project management, differences may occur on how projects are lead, understood, and carried through.

Drivers in this trend are the corporate cultures and quotas for managerial gender compositions in the organizations. Further drivers are the gender specific education, motivation, training and development opportunities as well as the lack of qualified male specialists particularly in the aging societies.

A barrier against this development is the so-called *“glass ceiling”*, which summarizes the phenomenon of the unseen yet unreachable barrier that keeps qualified women from rising to the upper rungs of the corporate ladder in the organizations, regardless of their qualifications or achievements. Further barriers are the lack of career and professional development opportunities for women (e.g. getting the chance to lead a project) and the missing support from organizations to integrate work with family life (e.g. part-time jobs, in-house nursery and child care, flexibility policy for young parents). Another barrier is the lower self-confidence of many women who struggle in case of negotiation of their own career paths or personal income.

3.6 Sustainability of projects

The United Nations (UN) define sustainability as the principles and treaties on sustainable development, including economic development, social development and environmental protection. More recently, the United Nations Agenda 21 distinguishes four areas of sustainability: the domains of economic, ecological, political and cultural sustainability.

Sustainability of a project is defined as a “development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987) with regards to the triple bottom-line i.e. long-term economic, social and ecological impacts of a project.

Sustainability also implies the project stakeholders as managers, teams, sponsors, control boards that are taking charge for sustainability.

Sustainability has several facets in projects and project management:

1. *Sustainability of the project*

- *Ethical aspects in projects* contain the aspect that the purpose of a project is ethically correct. This means that the project does not support unethical, social unfair goals.
- *Environmental aspects* of a project contain the aspect that a project does not put any harm to the environment by its existence or its future product or services.
- *Social aspects* of projects stand for the relationship of the project with the rest of the organization, but also with whole society.
- *Lifecycle aspect* of projects consists of not only looking at the short-term benefits of the project but also on the long-term perspectives until the recycling of the result of the project, be it a product, a service or an infrastructure object like an airport or a railroad.

2. *Sustainability of project management*

- *Ethical aspects* in project management mean not to discriminate minorities, not to accept bribery or corruption or any sort of advantage for the project´s sake. Another aspect of ethical sustainable project management is the responsibility of a project manager to give a correct project status in a very critical project situation although it might lead to the consequence of losing the own job. Another facet is how to *"deal with a dilemma where a project is threatening the environment, but still you have to be loyal to the project owner?"*[2]
- *Environmental aspect* of project management include the responsibility of the project manager to respect the environment by managing the project´s resources environmental-carefully e.g. by avoiding unnecessary project travel. There will be a demand for sustainability indicators for evaluating the project management.
- *Social aspects* in project management mean the relationship of the project manager and its team with the outside world and being aware that a project consists of precious social capital that should be treated carefully and respectfully. *"Social capital and natural capital to be taken into account in the definition of project success."*[3]
- The *lifecycle aspect* in the management of projects consists of the re-use of the deliverables of the project management, its plans, knowledge, the information gathered and the lessons learned savings to learn from finished projects.

[2] Expert statement from our study.
[3] Expert statement from our study.

Important *drivers* for sustainability are that not only public projects, but also major private projects are increasingly assessed more critically by the public concerning their economic, social and ecological impacts.

The *implication* of the trend is that it will increase the accountability of organizations contracting a project beyond their own risks and benefits towards the risks and benefits of external stakeholders who are affected by their project. It will transform the role of project management by challenging if they do the "right things right".

3.7 Professionalization of Project Management

We define "*Professionalization of Project Management"* as the process in which the occupation (métier) of project management transforms itself into a true profession of the highest competence. This includes defining standards for the different kinds of single and multi-project management tasks as well as for knowledge bases, processes and competences required to fulfill these standards successfully.

Professionalization of project management also includes an increasing level of profound and comprehensive application of the project management practices in all sorts of projects.

The *driver* of this trend is the growing awareness for the benefits of the application of project management for an organization. Top management is becoming aware that the cost for education and training of project managers, for implementing long-term career perspectives in project management similar to line managers, for supervising and long-term support of project managers, and for the implementation of PMOs with standardized core processes are much lower than the cost for unprofessional project management. Another driver of the trend is the growing demand of organizations for well-qualified project managers as the top management is aware that projects are the tool to implement their corporate strategy. They realize that their success depends on the quality of the projects managed. Another driver is that project management sets internal and external benchmark standards.

The *implications* are that single and multi-project management tasks and roles become increasingly classified and that there will be new long-term career paths for project managers in the organization. A further implication is that there will be professional associations that will lead the process of professionalization of project management, which means that project managers receive a chartered status in organizations, in academia, and in society.

3.8 Soft skills in Project Management

Although the ICB3 of IPMA covers the behavior competences with one third of the relevant competences for project managers the majority of participants forecast that soft skills will have an increasing meaning in the future. This means that successful project managers need to increasingly have and to be able to apply those personal attributes that enable him or her to interact effectively and harmoniously with all other project stakeholders, particularly in stressful situations.

The *driver* of this trend is the growing awareness for the meaning and the impact of the soft skill competences of the project manager for the success of a project. While hard skills such as technical expertise may be essential in a project manager, soft skills such as profound knowledge of the organizational culture or the ability to communicate effectively with the clients are the most important contribution that a project manager brings to a project. Soft skills improve the project outcomes directly, and are needed when projects have greater coordination complexity or less familiarity with the task or the client (Langer et al, 2008).

The *implications* of this trend is that project managers will be evaluated more and in greater depth towards their soft skills e.g. in assessment centers before their employment. A further implication is that the training and training methods and technics to improve the soft skills of project managers will be enhanced in the future.

3.9 Education in Project Management

Almost all participants of this study forecast that the offerings for learning project management capabilities will increase on all levels of skills by universities, industry and professional organizations and for all stages of project management careers. The methods of learning and teaching will improve tremendously in the next years.

The driver of this trend is the growing demand from all sectors of society, from industry as well as public administration, for better and more standardized project management skills, abilities, and knowledge.

Another driver for this trend is the demand for higher order capabilities for coping with more complex projects and environments.

The implication of the trend is that project management as a core competence will be ubiquitous and specialized offers will increase. New learning tools and applications as interactive games to develop project management skills will be created. For all areas of competences - contextual, behavioral and technical – project management teaching and learning tools will be developed. This will lead to better-qualified project managers and to a complete new business area.

3.10 Project Management Research

The trend describes an increasing volume of research on the existence, antecedents and impacts of project management practices, and the contingencies and dynamics of cause-effect relationships in projects and project management. The experts of the survey predict that not only the volume but also the quality of project management research will increase over time.

Indicators of this trend are:

- The amount of publications, citations, and readership will increase over time
- The amount of research grants and chairs devoted to project management research will increase internationally

- The amount of usage of project management research results in decision processes and results will increase over time.

The implications of this trend are the increasing relevance and elaboration of project management in practice. The quality of project management research will increase but the fundamental question is if this management science will catch up sufficiently in the future to attract the good researchers. Consequently the main barrier is the currently low status of project management in management research.

3.11 Project Governance

> *"The need for greater governance in the management of the projects will certainly be a strong trend in the coming years."*[4]

Project Governance is defined as the management framework within which project decisions are made. It contains the set of policies, regulations, functions, processes, procedures and responsibilities that define the establishment, management and control of projects, programs and portfolios.

The rapid rise of project governance can be explained with the transaction cost economics, social network theory and the global social developments. Governance is a response to the conditions of uncertainty, increasing complexity, frequency, volatility and ambiguity. These conditions force organizations towards structurally embedding their transactions (Jones et al., 1997).

As consequence of the financial crisis in 2007, people do not accept badly managed projects any more. They want to know what public administration and the politicians are doing with the taxes and duties. In addition, the aspect of value creation vs. value destruction by projects is becoming a key issue in the public, not only in public projects but also in industrial and private projects. Consequently, all stakeholder groups have an increasing interest on all aspects of a project.

Another implication of the trend is that the roles of the project manager and the decision makers are to be redefined.

3.12 Stakeholder Management

Stakeholder management practices have already become more elaborated in the last ten years, while research on stakeholder behavior is documented (Littau et al., 2010). Project management can learn from stakeholder management theories which have been developed in strategic management and in the corporate governance literature.

Our experts point out that stakeholder management is not yet done sufficiently professional. In particular, the dynamic nature of the stakeholder relationships is not recognized sufficiently. Another area of stakeholder management are organizational change projects. In these projects gaining support for the changes intended is a key issue, depending on the

[4] Expert statement from our study.

amount of change and people concerned. Stakeholder management in change processes can become a complex and political issue.

The third area for stakeholder management are public projects, and the implementation of these projects. Massive public resistance characterizes these projects. Project managers need to learn to cope with the tension between integrating stakeholders too intensely and becoming paralyzed or neglecting the stakeholders and being punished for not listening sufficiently to their demands. This aspect of the stakeholder trend overlaps with the project governance trend discussed in the previous chapter. We assume that the power and competences gained by both trends will positively influence the trend “Project management goes boardroom”.

However, project managers can only solve their stakeholder management tasks if they receive active support from senior management. This means if there is a better understanding at the senior level and a higher will to invest in project management capabilities, there will be an improvement of stakeholder management.

A driver of this trend is the social phenomenon that previously powerless groups like citizens or employees receive more power and can activate that power quicker (e.g. by using social media).

An *implication* of the trend of increasing stakeholder management can be that the role of the project manager will develop from the role of the implementer to the one of a relationship manager.

3.13 Projects as Business

The experts expect that projects are increasingly seen as an entrepreneurial undertaking to deliver business results. The emphasis on value and benefits of projects will increase, but also the aspect of sustainability of projects and project management will become important. Tools to monitor and assess the value, benefit, and sustainability of projects and project management will be developed.

Budget and time are weighted against the benefits and no longer seen as strict constraints. The perspective becomes more long-term, strategic, and stakeholder-oriented than in the traditional “iron triangle“ view. The accountability of project sponsors for achieving these results will increase. Project managers will receive more autonomy and more influence, but they also need more entrepreneurial capabilities.

Drivers of this trend could be:

- Increasing share of profit and loss contribution of projects
- Increasing volume and complexity of projects
- Increasing innovation and sustainability orientation
- Project managers demand more autonomy and influence

Implications of this trend are that project managers will develop from deputy managers to responsible entrepreneurs. Another implication is that project owners develop from budget

owners to business champions. These developments will increase the role and meaning of project managers in organizations.

However, this trend may not apply to all projects with the same strength. It will influence stronger innovative and market-oriented projects than internal and incremental projects.

3.14 Project Management goes Boardroom

> *"Top management will become even more focused on the use of projects in achieving the goals of their enterprises."* [5]

We define the trend *"Project Management goes Boardroom"* as the raising recognition of the importance of project management for corporate success by the decision makers in industry, policy, media, and society. Further, this trend contains:

- the raising influence of project-oriented thinking among senior executives, senior politicians, members of high-level control boards,
- the implementation of project-oriented governance systems,
- the systematic increase of organizational competences in project management.

The drivers for this trend are taking place on a societal, organizational, and on an individual level.

(1) *On a societal level*, there is a strong movement for judging mega projects more critically, and politicians are made accountable for the failures of projects financed by public money. The governance principles of projects – the standards for planning and controlling in the early stages will rise and the governance standards for the control board will increase. This trend will not only cover large infrastructure projects e.g. for traffic, energy, water and health care, but also mega projects like Olympic Games and cultural events like EXPOs.

(2) *On the company level* there are legal regulations in US GAAP and in IFRS to report risks in projects, but these regulations are not sufficient. The ongoing debate on corporate governance will lead to stricter regulations to avoid financial disasters. The regulations will not only hit contractors who deliver complex solutions by a network of firms, they will change the roles, competences, and behaviors of the organizations which are the *clients* of such projects. Top managers will become accountable for their planning and risk management. Project management will go boardroom because media, shareholders, unions and social movements will demand it. Control boards gain importance and influence.

Drivers of this development are better methods for managing project portfolios and programs and an increasing value and loss contribution of projects and accountability of managers. The implication is that project management is considered as a core organizational competence and that firms are striving to become project-oriented organizations.

[5] Expert statement from our study.

There is an increased understanding that corporate strategies without implementation are not successful. Successful organizations are those with excellent project management skills and vice versa.

(3) *On the individual level* the ability to manage projects successfully will become a career-relevant skill. Since the career paths and lifetime professions in organisations have changed, managers look for independent certifications and networking opportunities to find out where their skills are valued. This strengthens professional organizations fulfilling these needs. A barrier to this trend could be the missing willingness to empower and qualify people. However, we believe that those organizations which follow this trend will be more successful.

3.15 Project-oriented Organization

> *"PMOs will be very wide-spread. The standards and manuals will be even more important, but will allow for flexibility."* [6]

The trend *"Project-oriented Organization"* means that a major part of the value creation of an organization is delivered in projects. Project management is a core competence for the organizations while business functions are aligned to foster project management.

Indicators of this trend are the amount of value creation in projects, the degree of project orientation in overall strategy and in aligned business functions (like Planning and Controlling, HR, Marketing, R&D, ICT) and the empowerment of project managers and project management.

Project management competence also refers to the implementation of a organizational framework that consistently enables projects to succeed. Project-oriented organizations provide dedicated competence development systems for project managers and career systems that are equivalent to careers in the line management. Furthermore, they develop processes and committees for the management of single projects and project portfolios as a whole (PMO, Portfolio Steering Boards). They implement standards for the operational organization of projects, for project planning and HR management of projects.

Project-oriented organizations succeed in executing multiple projects simultaneously and embed them seamless in the structure and processes of the line organization. Not only the cross-functional project teams are well integrated, but also the superior line management is incorporated in the project portfolio processes.

As projects are executed within a network of associated business partners a range of additional competences are required (e.g. networking competence, claim management competences).

[6] Expert statement from our study.

4. Conclusion and recommendations

The study 2014/15 on the future trends in project management shows that project management as a relatively young management science will further develop and mature in the next decade. The fundamental trend "projectification of society" will probably continue, although it reached already a level of saturation in the developed countries, in several sectors of the societies and in several application fields. Thus, this trend may have a varying impact in different contexts and its marginal impact may decrease over time. However, it will make a significant difference how the collective and individual actors engaged in the political, social, environmental, and industrial organizations will react to the trends.

There are trends which need support from the emerging social movements, and from the established political, social and environmental actors than others. The benefits of more women can only be realized by a comprehensive coalition of strong actors, and the same is true for the integration of immigrants in the developed countries, and for the flexible integration of the elderly, high experienced project managers, so-called "silver" generation.

Ethical, social, and ecological issues, inherently linked with the trends sustainability, project governance and stakeholder management also require well co-ordinated political and social actors and activities. Mastering these tasks will help to better cope with the increasing complexity.

Professionalization of project management and education in project management are already occupied by specialized stakeholder institutions – but they need further political support.

Trends like transnationalization of project management, virtualization of project management, projects as business, stakeholder management, project management goes boardroom and project-oriented organization require more actions from the project management users. Learning is not only an educational task of universities, but also the major task of the project management users, who are to establish better knowledge management systems.

To transform these trends into practice new approaches and more fundamental changes in the public, in industry, in administration, in politics and in the societies are necessary:

- *Professionalization of project management* should be actively supported by the governments, as good governance regulations for major public and private projects need to be elaborated and implemented.
- *Women* should be attracted, recognized, developed, and retained for the profession of project management. This requires additional measures at all levels which face considerable barriers as the gender debates show.
- If sustainability should be more than a new catch-word, fundamental changes are a "must-do".
- Project management as a *management innovation* needs innovative managers in order to re-invent it and to bring it to the next level.

It depends on the quality of the co-operation between society, organizations and individuals and to the way how the new threats are coped with if the upcoming new opportunities of project management can be pursued.

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Business orientation of projects

Antonio Calabrese

Abstract

Business orientation of projects is an inherent key success factor for project based organizations. Due to the increasing challenges within the business arena there is a need to understand how to make an organization ready to properly set its strategy, value creation and operational processes. The paper tries to outline some of the most relevant factors emerging from the literature and the current business context, suggesting which could be considered the most impacting on business success.

Key words

Business orientation, project based organizations, governance, portfolio management, project management

1. Introduction

There are project based organizations in a wide range of industries, including engineering&contracting, construction, aerospace, ship-yards, consulting and professional services (e.g. accounting, advertising, architectural design, law, management consulting, public relations), cultural industries (e.g. film-making, video games, publishing), high technology (e.g. software, computer hardware, multimedia, telecommunications), fashion, events organization, humanitarian aids, etc.

It is well known that they carry out most of their activities in projects and that the project represents the common ground for their organizational models, processes, strategies, business models, governance rules and, in the end, value creation.

Due to the strong competition at local and worldwide level and striving for competitiveness many of these project-based organizations are engaged to meet the highly differentiated and customized nature of demand, where clients frequently negotiate and interact with project organizers over the often innovative design of products and services (Hobday, 1998). Project-based firms deliver projects for their business purposes; they operate in the project business, whose features require to being able to design and manage unique processes. The central features of project business have been identified in the uniqueness of individual projects, the complexity of the project offering and business network, the discontinuity of demand and business relationships between projects, and the considerable extent of financial commitment of the parties (Cova, Ghauri & Salle, 2002; Mandjak & Veres, 1998; Tikkanen, 1998; Tikkanen, Kujala & Artto, 2007).

As projects have become an increasingly important part of the value creation process in many different industrial fields, the capability to sell and market projects has become essential, just as their efficient execution through effective project management processes, their success in the end user perspective and their financial, economic and technological sustainability.

So, for all these reasons it is commonly accepted that a project based organization must underpin its business success on strategy, decisions and subsequent actions aimed to deliver business oriented projects.

Managers of project-based firms face particular challenges caused by a combination of fluctuating markets, decentralized decision-making structures and uncertainties of project delivery. Low bid success rates (Gann & Salter, 2000) combined with the non-storable nature of services make management of resources difficult, but important. The relative size of a single project compared to the total volume of activities in a firm can make project-based organizations particularly vulnerable to resource allocation problems.

Nowadays, these types of organizations make up a substantial and increasingly important part of the economy aspect. Projects within the organization characterized by decision-making in individual projects have a large degree of autonomy and coordination across projects is often weak. Furthermore, the non-standardized nature of projects increases the potential for errors and overruns are frequent. Project-based organizations are more than a collection of independent projects: projects depend on shared and contested resources.

Even if there are different research perspectives about, managing the organization through projects usually enables to:

- produce products and provide services more successfully and limiting overruns;
- tie project selection and performance to business strategy;
- set organizational goals and measurements in terms of projects, and tracks progress by measuring and tracking projects;
- allocate responsibility and authority for managing the projects to their project managers (requirements, cost, schedule), sponsor and customer interface; and
- manage resources more effectively.

2. The concept of business orientation

The concept of business orientation is very wide, since it may cover different dimensions, depending on the purpose it aims to. It could refer to marketing orientation or to production orientation, to employee orientation or to customer orientation. So, different businesses apply different orientations or combinations of them, depending on their specific goals and strategies, as shown in Table 1.

Marketing Orientation	Customers are knowledgeable about the variety and quality of goods and services available in the market. Businesses base their decisions on customers' needs and wants by conducting research and producing goods and services that satisfy the customer. Consequently, the business benefits from increased reputation to the public, loyalty from customers, increased profits to the business, improved share capital and a highly motivated staff.
Production Orientation	It focuses on product development. It aims at improving an existing product's functions and quality, making the business competitive in the market. It also focuses on production efficiency and reduced production costs. The product is the first priority of the business, followed by consumers. Product specialization in the market helps to meet the needs of different target groups. It creates a platform to engage in extensive product training, enabling the staff to develop thorough product knowledge.
Employee Orientation	It is the process of introducing a new employee to the job. It entails completion of paperwork by reading and signing important contract forms. New employees are introduced to the company profile, goals, policies and the roles and duties to perform for the smooth running of the organization. It also provides skills-based training for the employee to familiarize himself with the business' culture and organization's expectations. The orientation enables the employee to feel welcome and at ease in the organization.
Customer Orientation	It is based on the philosophy that the customer is always right. Businesses employing this orientation offer remarkable customer service and always seek to establish strong customer relations. They ensure mutual respect between them and their clients and interact with them in a way that makes them feel valued and appreciated. Businesses of this sort are deeply concerned if their clients do not see any added value by doing business with them and make appropriate adjustments to correct this whenever it happens.

Table 1: Different types of orientation (from *D. Wicks, Demand Media*)

An organization will be successful in practicing its orientation given it will be able to design appropriate processes and operate them effectively. That means it should have another basic type of orientation, a kind of pre-condition for the other types, that is Business Process Orientation (BPO). In principle, since a firm aims to improve its business performance, anything that enables to enhance the overall performance should be pursued.

When in '80s Porter introduced the concept of interoperability across the value chain as one of the major issues within a firm, he was arguing about process and business process

orientation, and its relationship to improved cross-functional interaction. More recently some studies have been conducted to explore if there is a relationship between BPO and business performance improvement and how it works (e.g. Kohlbacher, 2009). The results seems to confirm high BPO levels are associated with better business performance through greater organizational connectedness, less conflicts, more positive corporate climate. Furthermore, high BPO levels seem to be in relationship with customer satisfaction, product quality, delivery speed and time-to-market speed.

A "business process culture" is a culture that is cross-functional, customer oriented along with process and system thinking. Such a culture within a business process oriented organization emphasizes process as opposed to hierarchies, and a process-oriented way of thinking outcomes and customers. So, the concept of BPO can be broken down into the following elements (Kohlbacher & Gruenwald, 2011):

- design and documentation of business processes;
- management commitment towards process orientation;
- process ownership;
- process performance measurement;
- corporate culture in line with the process approach;
- application of continuous process improvement methodologies; and
- process-oriented organizational structure.

Almost all of these findings are connected in some way with the concept of project business orientation.

3. The approach to project business orientation

The concept of project business orientation can be shaped and discussed in terms of "how to choose, manage and operate projects in order to match the organization's strategy, to improve its performance, and finally to get business success". In other words, we could argue that business orientation of projects is mainly matter of integration, balance and alignment within an organization and with its stakeholders.

That includes two dimensions, namely *project management success* and *project success*. The first one is basically focused on the organization itself and it is mainly an internal issue (planning, controlling, risk mitigation etc., given any contractual constraint and duty). The latter can be referred to the various features of the project, involving some internal issues (design, choice of suppliers, criteria for construction and fabrication etc.) and some external ones (technical specifications, functional requirements etc.), mainly coming from the external context like customers and/or end users needs, laws, regulations etc.

With the aim to pursue project success and future sustainability, both during the project delivery cycle and the project operating cycle, i.e. the benefits coming from the usage of the product/service that was delivered, it is necessary to match since the beginning some conditions and requirements:

- alignment of the project with the organization's strategy (i.e. portfolio decisions) – this is a preliminary issue, but need to be controlled over the time both from customer and supplier perspective;
- alignment of the organization's strategy with the evolving external context and any market challenge;
- alignment of the project with the interests and expectations of the main stakeholders and balance (if and when possible) among them – this is a preliminary issue too, but need a very accurate, attentive and timely analysis because any change due to internal or external factors may result destructive;
- alignment with the business model of the organization – about this issue, any change that could occur must be analysed and evaluated for its impacts on project economic sustainability, coherently with the strategic goals;
- balance among risks, opportunities and expected profitability;
- balance and integration of project scope in accordance with any contractual duties and constraints, resources and stakeholders expectations - a good scope change control system is one that makes sure that all of the stakeholders concerned with the change are made aware that it is being submitted, agreed upon, processed, disapproved or approved, and implemented. Change management must be careful to ensure that budget, schedule, performance and documentation are all changed to reflect the change;
- integration of processes, internally and vertically, along all the supply chain – that refers also to process improvements, research and inclusion of best practices, implementation or improvement of IT platforms etc.;
- balance of resources, referred to internal resources available for the project portfolio of the organization.

It could be argued that any of these conditions and requirements should be compliant with the organization's culture and reflect any possible development over the time. Some of them must be discussed at the highest level of the organization, some others can be considered under the responsibility of the portfolio or project manager.

A project-based organization can pursue this approach only as a result of implementing an appropriate project governance, meaning a project business oriented governance.

4. Project business oriented governance

Given the alignment of the project with stakeholders' needs and objectives in order to achieving organizational objectives, project governance should enable project based organizations to maximize the value of projects' outcomes, aligning the project portfolio with the business strategy. That would mean to have an approach and a set of processes where the project/portfolio managers and sponsors could take decisions fulfilling stakeholder expectations and organizational strategic objectives. An effective project business oriented governance should be able to address properly any circumstance in case of misalignment.

In other words, project governance refers to the set policies, regulation, function, processes, procedures, and responsibilities that define the establishment, management and control of projects, programmes and portfolios. It defines the objectives of the project (do the right projects & project success), means of obtaining those objectives (do projects right, project management success), means of monitoring performance (do projects right first time, every time). Governance also defines the relationship between owner, sponsor, steering committee, project manager, team leaders, and other stakeholders.

Having a governance structure in project based organizations provides a framework to guide managers in decision making and action taking and helps to alleviate the risk of conflicts and inconsistencies between the various means of achieving organizational goals such as processes and resources (Müller, 2011).

The governance of such firms is a challenging task. Because of their deep reliance on projects, that implies that a quite high degree of discretion is granted to middle organizational levels. Since projects require great autonomy, they can easily become separated from each other, with the risk of turning the organization into little more than a series of disconnected projects. Project based organizations will tend to suffer from certain weaknesses, e.g. difficulties in linking projects to firm level business processes (Gann and Salter, 2000). Some researches (Lindkvist, 2004; Dovey & Fenech, 2007) have shown that traditional organizations that adopt a project management approach often face a dichotomy between the flexibility and dynamism of the project approach on the one hand and the desire of firms' functional and strategic stakeholders to exercise control at organizational level on the other. Additionally, these studies and others have demonstrated that, when set in traditional structures, project based organizations display a number of weaknesses, especially concerning coordination between strategy and projects and the difficulty to create cross functional management teams (Thiry, 2006). Williams et al. (2010) provided some guidance for constructing a more specific project governance framework by satisfying three main goals:

- *Choose the right project* – In today's turbulent business environment organizations are advised to adopt a flexible, complementary and collaborative approach to project governance to gain most benefits from projects they initiate. Such an arrangement would enable organizations to realize value from projects instead of restraining their contribution by emphasizing project control.

- *Deliver projects efficiently* – Project governance requires the alignment of project activities with organizational activities. It can therefore be viewed as a set of formal principles, structures and processes for undertaking and managing projects within the broader principles of corporate governance.
- *Ensure that chosen projects can be sustained* – Project governance should be perceived as an ongoing collaborative network structure between project and corporate management.

It is known that the primary role of project management is to deliver the objectives of the project on time and within budget as a matter of efficiency ('doing things right'). Project governance seeks to achieve enterprise objectives effectively ('doing the right things') and is measured by business success criteria, such as increased profits or market share. It has evolved to a broad, strategic approach while project management has a narrow, operational approach. Project governance requires skills in organizational leadership to achieve its objectives and is carried out by executive management who report to the board of directors. Project management requires skills of a technical nature, such as project scheduling, and is carried out by middle management who report to senior management.

But governance is not management. The two functions need to be separated within an organization: the Board should be responsible for setting strategic objectives whilst the executive managers should be responsible for establishing performance measures and operations. Based on this understanding, Too & Weaver (2014) proposed a model for the relationship between governance, organizational management and project management as a series of nested systems (Figure 1).

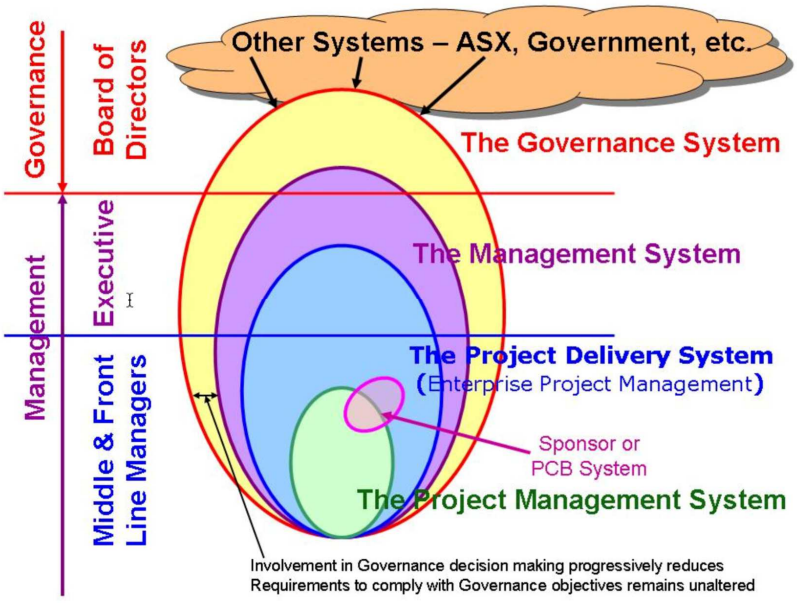

Figure 1: Nested governance and management systems (from *Too & Weaver, 2014*)

5. Business orientation of project based organizations

Business value is unique to each organization and includes tangible and intangible elements. Successful business value realization begins with comprehensive strategic planning and management. Organizational strategy can be expressed through the organization's mission and vision, including orientation to markets, competition, and other contextual factors. Effective organizational strategy provides defined directions for development and growth, in addition to performance metrics for success. In order to bridge the gap between organizational strategy and successful business value realization, the use of portfolio, program, and project management techniques is essential.

To win in a global market were competitive prices are a given, it is important for projects based companies to provide an excellent service level after project acquisition. Products should be delivered on time in compliance with contract's delivery terms, with no surprises during customer acceptance test and guaranteeing the net margin expected at order intake.

There is always a correlation between enterprises and market need. Based on the market need and human nature's requirement projects are derived and every company has its own business orientation to involve in wide range (temporary time window) of market need.

According to the question by DeFillippi and Arthur: "How is economic value created in project-based enterprises?" the answer could be *flexibility*. Project-based enterprises enable experimentation, e.g. the ability to combine resources in novel ways to try and create a hit movie (and ultimately profit or positive economic value for project sponsor). This is a direct response to extreme demand uncertainty in the movie industry where consumer tastes shift rapidly and unpredictably. Real (or strategic) options theory predicts that uncertainty should be met with flexibility and project-based enterprises are simply one example of using flexibility to counter uncertainty. But that is not the most extreme case: for example spot contracts enable buyers and sellers to switch to new parties after each transaction.

Project based enterprises balance investments and returns in project management through careful implementation of measures that address the forces that make them successful. Project based enterprises are highly related to the nature of the business and often need to invest more in order to gain higher returns from their investments, compared to other organizational and business models.

6. Links among project governance and business orientation in project based organizations

Based both on theory and practice we can find some relevant links that a project based organization should take care in order to maximize the benefits from its business.

6.1 Link through portfolio management

Portfolio management supports the organization's governance process by ensuring that selected projects are aligned to and support the organization's strategy. Portfolio management aligns components (projects, programs, or operations) to the organizational strategy, structured into portfolios or sub-portfolios to optimize project or program objectives, dependencies, costs, timelines, benefits, resources, and risks. Only through such an overall view an organization can understand if and how the strategic goals are reflected in the portfolio, so being able to adopt the most appropriate governance processes and decide on resource allocation. That being aimed to reach the desired performance and the expected benefits.

Organizations can further facilitate the alignment of portfolio, program, and project management activities by strengthening organizational enablers such as structural, cultural, technological, financial and human resource practices.

By continuously conducting portfolio strategic alignment and optimization, performing business impact analyses, and developing robust organizational enablers, organizations can achieve successful transitions within the portfolio, program, and project domains and attain effective investment management and business value realization.

Project governance involves a set of relationships between a project's management, its parent organization, its client and other stakeholders. Project governance provides the structure through which the objectives of the project are set, and the means of attaining those objectives and monitoring performance are determined.

To manage multiple projects successfully the organization needs to maintain control over a varied range of specialist projects, balance often conflicting requirements with limited resources, and coordinate the project portfolio to ensure optimum organizational outcome is achieved. Project performance is tracked in detail when the project is executing with reference to the planned baseline in schedule and cost wise. Earned value is a best method to control a project performance at any given time of the project scheduled time. The difference between two variances i.e., cost and schedule can be identified, project manager should determine the course for the variance. At macro level, a determination must be done with regard to whether the correct course of action is to modify performance or to modify the expectations. At micro level, the existence of current or forecasted variance may require specific actions to ensure that the integrity of budget goals is maintained.

6.2 Link through project success factors

To some extent, the result of project governance is to determine the profit models of projects and project manager shall implement these models efficiently and effectively (Ding, 2015). According to Deming investigation conducted by Standish group one in 2013, 61% of successful projects are achieved due to the effective supports from top management and the organization. On the contrary, 70% of unsuccessful projects fail due to the capabilities of the top managers and their limited support. The relationships and frequent tensions between

project and business processes have been brought into sharp focus, with project acquisition strategies and resource allocation being important concerns shared by many in industry.

The actual performance of an operating unit (execution) should be continuously measured and compared against planned budgetary goals. Based on the result, it might be well-known the benefit/cost impact both from financial and economic perspectives. Many factors can be considered for measuring quality and success in projects, and among them the project mission (clear and agreed objectives), the top management support (project governance), the schedule quality (good and clear plans – project planning), the timely and comprehensive control (project control), the client level of consultation and communication (stakeholder management), the level of competence of the project team, the client acceptance (ability to sell product/outcome to final users) and the troubleshooting capability (attitude to handle unexpected problems).

6.3 Link through enterprise value

Every organization has a strategy to achieve its own long or short time goals. Projects lacking effective senior management support cannot deliver the expected business benefits to an organization. Institutional arrangements and systems are needed to facilitate interfaces between executive management and project teams. Such arrangements will enhance the value created for the organization by ensuring the strategic alignment of its projects, decentralization of decision-making powers, rapid resources allocation and participation of external stakeholders (Müller, 2011).

In project-based organizations portfolio management should foster vertical integration between programs and projects to align with corporate strategy and effectively create value for the business aspect of the company. The advantage of a horizontally integrated project management from the business unit to the program and the delivery of value versus a product delivery project management approach should be obvious (Thiry, 2006). A well-integrated project based organization (PBOs, Figure 2) shows strong interrelationships between projects and both business and corporate strategies. Such an organization needs to decide on resource allocation not only aiming to the most efficient balance, but also to highest value creation. Project managers will be expected to play a predominantly project delivery role to meet project’s objectives and satisfying all stakeholders.

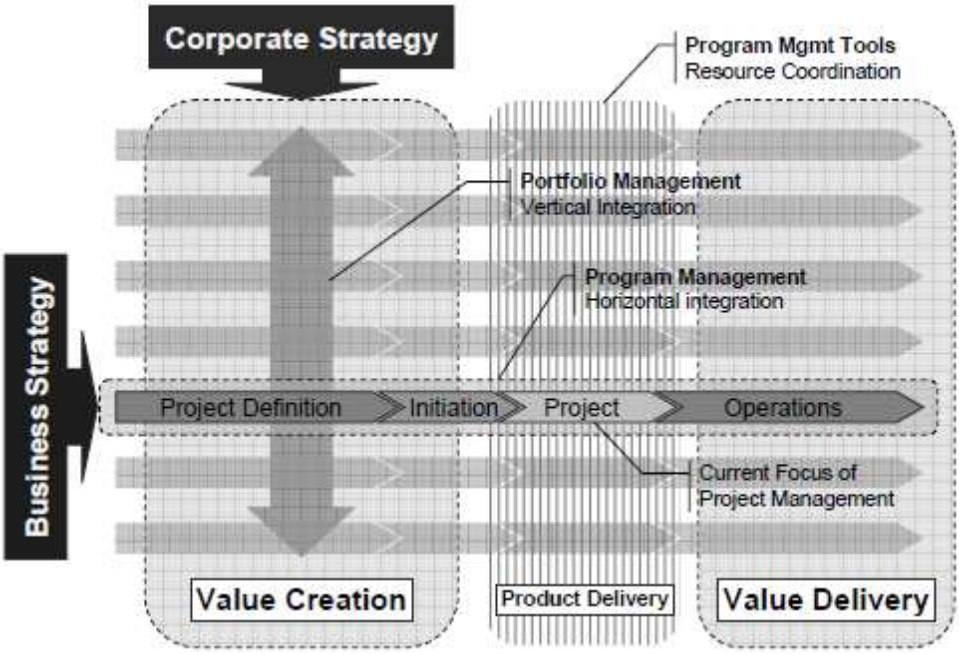

Figure 2: Vertical and horizontal integrations in PBOs (from *M. Thiry, 2006*)

7. Patterns of change in project business orientation

There is now a final question: is project business orientation grounded on a fixed set of attributes and feature? Or in some way, due to the challenges coming from the market, should a project based organization be able to adapt its orientation?

In a globalized and very competitive business context, the paradox given by the need for specialization in a narrowing set of core competences while at the same time the pressure to match more demanding and wider customer needs is a feature in the context of project business as well. As observed by some authors (Tikkanen et al., 2007; Ulaga & Eggert, 2006; Davies et al., 2007), some project suppliers tends to outsource an increasing amount of activities or even sub-projects to external partners, while combining different competences to match requests from their customers in terms of more extensive offerings. Consequently, project business firms have to look for new sets of complementary (or even substitutive) resources, capabilities and competencies in the business network (Tikkanen et al., 2007). This capability to co-create value is one of the most relevant success factors of a project based firm and pushes to adapt its competitive behaviour in several ways. Jalkala et al. (2010) investigated the changing project business orientations occurring in the project business with the aim to shed light on what kind of on-going changing orientations can be identified in the project business.

Based on the study of several project-related Finnish and French companies operating world-wide in various industries, they founded 10 possible changing orientations that are shaping the project business arena (Table 2).

Identified changing orientation	Proposed shift
1. Changing role of customer network actors in the definition of projects	From network management to network mobilisation
2. Rapid changing of actors in the customer base of a project supplier	From ‘‘territorialised’’ milieus to dynamic global constellations
3. Changing buying process and the increased risk factor	From bidding procedures to risk- sharing approaches
4. From project orientation towards customer orientation	From discontinuous project transactions towards continuous customer relationships
5. More customer-oriented project delivery and implementation	From the management of discontinuity to the management of continuity
6. A dual upstream- downstream movement of project suppliers	From an upstream logic to an upstream/ downstream logic
7. Enlargement of the offering	From project offering to solution offering
8. Shift from references to super-references	From references to systematic building of network position
9. Plurality of marketing situations faced by companies	From project marketing to total marketing
10. Branding in projects	From corporate reputation to branding strategies

Table 2: Summary of the identified changing orientations (from *Jalkala et al., 2010*)

Their findings show that “*project business companies are moving from a logic of influence towards a logic of cooperation, and this development forces project suppliers to acquire new marketing competencies and capabilities. ... All in all, the identified changing orientations seem to indicate that project suppliers have to include several new competencies and capabilities in order to succeed in the dynamic project business environment. At least system integrator capabilities, customer relationship management capabilities, as well as networking capabilities seem central in light of the identified changes*”.

8. Conclusions

This paper tried to summarize some of the most relevant factors which impacting on project business orientation, both coming from scientific research and practice. It was quite clear this is matter of alignment, balance and integration among strategy, business models,

stakeholders' expectations, operational effectiveness, organizational models, processes and best practices, competences in project and portfolio management etc.

Through a "neutral" perspective – meaning a point of view that could be acceptable both for project suppliers and customers – it was possible to find a set of more frequently agreed findings about models and trends, even though without the ambition to build a general and comprehensive model.

In principle, however, it seems realistic to argue that the business success for a project-based organization can be pursued only through a balanced, resilient and flexible approach at any level of its strategic, managerial and operational processes.

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Run the Business / Change the Business: What delivery excellence has to do with it?

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Abstract

This paper addresses the phenomenon of Run the Business (RTB) and Change the Business (CTB) and the role of IT delivery excellence therein. It delineates the relationship between RTB and CTB and puts them in organizational perspective. It explores their combined dynamics with a causal model. This paper discusses elements of a framework for delivery excellence which is based on case studies conducted in one of the largest IT and IT enabled services providers. These elements have been identified in the context of IT projects which have been outsourced by a client to a service provider. Every element in the framework individually and collectively works towards contributing to delivery excellence. The road to CTB goes via RTB. This is the current understanding of the author and this understanding is still evolving.

Key words

Run the business, change the business, delivery excellence, information technology

1. Introduction

The challenge in Running the business and Changing the business lies in simultaneity- they exist together in time and space. It is not an either / or situation (Endeavor, 2012). It these were to be accomplished in a phased manner- one after the other with sufficient phase lag things would have been different and simpler. It is Siamese twins like situation so much so that key leaders for both endeavors must also be the same to ensure the success (Endeavor, 2012).

Run the business (RTB) and Change the business (CTB) are twin splits of enterprise IT. It is true for all departments of a business enterprise and not confined to IT department alone. The former is concerned with running the day to day IT operations while the latter is engaged in developing the products, services and platforms that can be taken to the market to sustain the future of the enterprise. Run the business is surviving today and tactical in nature while Change the business is surviving tomorrow. Change the business is strategic and transformational in nature. A business enterprise must transform in order to cope with the ever changing demands of the future. Business environment is volatile. Disruptions keep on taking place through technology, business models, merger & acquisitions; and market movement. Staying relevant entails continuous re-imagination, adaptation and change. Lion's share of the enterprise resources, as one should expect, goes to Change the business. However, the reverse is true in the current state of affairs. A single penny spent on Running

the business makes proportional impact on investment in transforming the business. This tug of war between RTB and CTB for enterprise resources has acquired strategic significance for business enterprises and the issues such as role of information technology (IT) in business, IT and business alignment and role of IT in Changing the business is being considered at the highest levels of corporate governance.

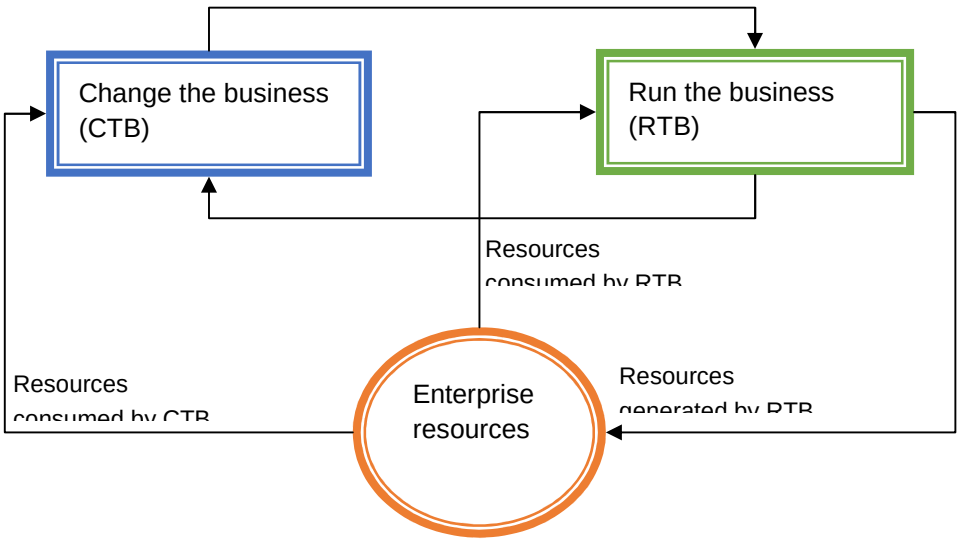

Figure 1. RTB and CTB

As seen from figure 1 enterprise resources at a given point of time are generated by the RTB only and not by the CTB. RTB consumes a part of these resources to keep running the enterprise / enterprise IT depending the scope of the discourse. The discourse may be confined to enterprise IT or it may include the entire enterprise. More the enterprise resources spent on RTB the less is available for CTB.

What role do management of IT projects and IT delivery excellence play in this? From merely concerned with deliverables (without being bothered about what these deliverables do to the customers), to satisfying customer requirements, to being accountable for the outcomes, to being called upon to contribute to revenue generation- Information Technology has undergone a sea change along with IT projects and delivery excellence. Enterprises are being reimagined digitally under the influence of great transformational forces of social media, mobility, analytics, cloud and automation. And, doing business as usual is more risky than ever before.

RTB and CTB is a perennial phenomenon across all industrial domains. Why it is so that it is being discussed under the context of Information Technology (IT)? Why the role of IT is important to this question? This is a pertinent question. And, the only answer is Information Technology (IT) has increasingly become powerful conduit to express business strategies of organizations (Abid, 2008). Although, there is no one to one correspondence between business transformation and IT transformation, but when a business transforms some

transformation of underlying enterprise IT is inevitable. This is for the simple reason that objectives of both are the same- to make the business successful (Brian, 2007).

2. Failings of delivery excellence

IT projects fail quite often and the failure is multi-dimensional. Schedule and budget overruns, higher maintenance cost, not being able to deliver expected business value are some of the typical and perennial problems IT projects are failing since decades (Dynamic Markets Limited, 2007). More and more dimensions are being added to already complex situation with respect to the value IT projects accrue to businesses. Business and IT alignment is one such issue being debated in the academia and industry incessantly. It is not even clear how to define and parameterize this alignment or the lack of it and whether all the blame for not achieving the alignment should be placed at the doors of IT managers and CIOs only. What role do business units heads and other executives play in the alignment of IT with business or the lack of it?

Quality still remains an elusive goal to achieve for IT projects. A large share of IT project budget and schedule is consumed by software testing phase. In cases testing phase consumes more effort and budget than all preceding phases put together. Quality not only impacts customer satisfaction, but directly related to maintenance cost. Software maintenance or IT production support has become an industry in its own right thanks primarily to software quality.

3. Capturing the dynamics of Run the business and Change of business

Figure 2 is a causal model part of System Dynamics (Forrester, 1961; Forrester, 1968; Richardson and Pugh 1981) modeling approach to model and simulate behavior of complex systems captures the dynamics of Run the business and Change of business. Enterprises interact continuously with their environment (Beer, 1985). The environment consists of competitors with their products and services, markets, idioms of the domains be it technology, business, society or any trending idioms of the times. Enterprises engineer features in their product and services and entire range of offerings that could differentiate them from their competitors.

This differentiation is input to new products, services and platform development. New products, services and platform development is launched as projects and delivery excellence plays a role here too to ensure that these projects are delivered on schedule, within budget, and with requisite quality.

The new products, services and platforms along with new market development define the new and improved capabilities of the organization that define Change the business. A part of these capabilities also augment delivery excellence. Delivery excellence will keep on reincarnating itself again and again so long as enterprises keep on developing new offerings, which they will always do.

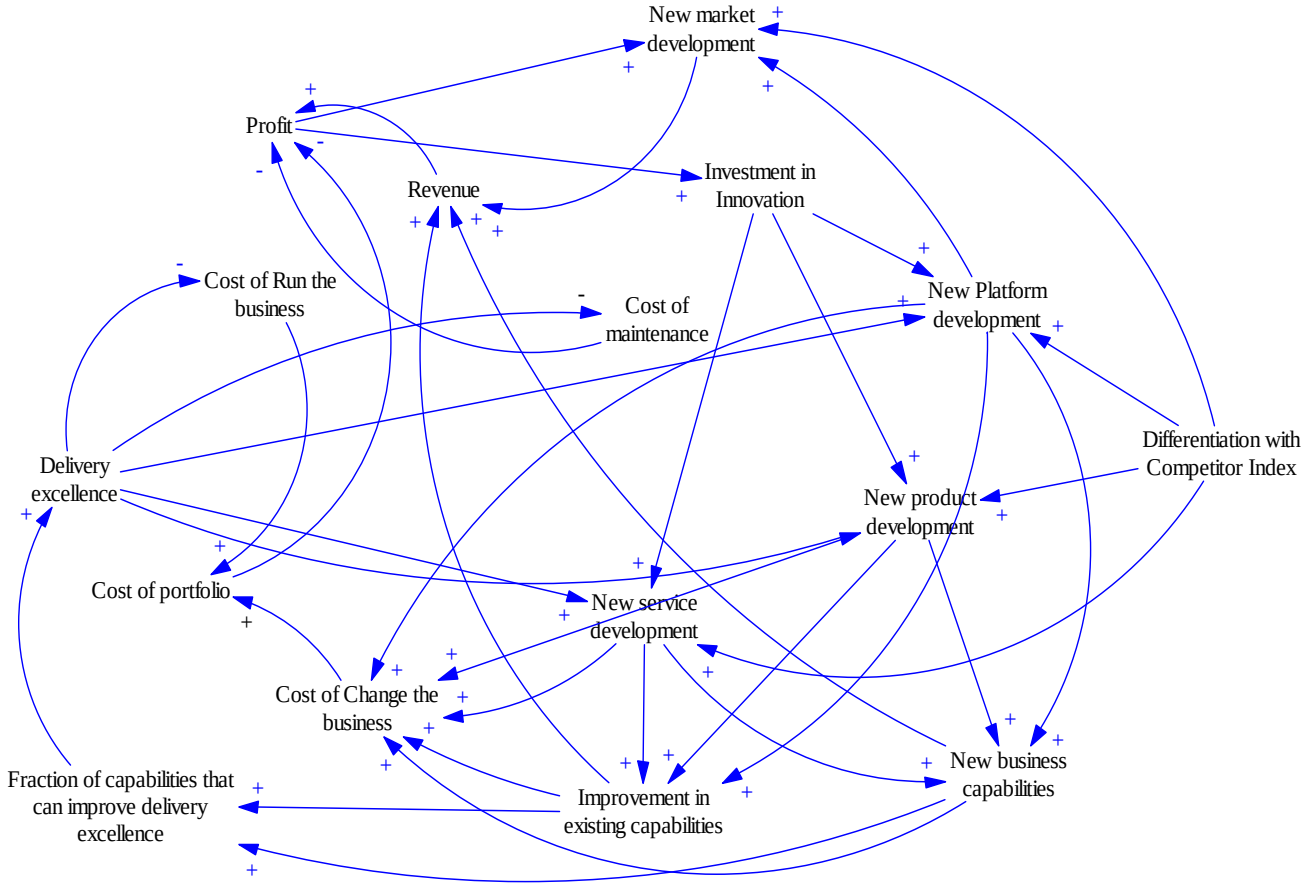

Figure 2. The causal model of RTB / CTB

4. Feedback loops

The causal model given in figure 2 can be appreciated only when we understand the feedback loops given in figure 3. Feedback loops are part of the system structure in System Dynamics methodology. Feedback loops hold the key to understand why complex systems behave the way they do. There are a number of feedback loops in the system under consideration. Figure 3 shows only representative feedback loops only- 1 positive feedback loop and 3 negative feedback loops. Positive feedback loops are reinforcing in nature (Forrester, 1961; Forrester, 1968; Richardson and Pugh 1981). For instance, in the positive loop in figure 3 (a) investment in new service, product and platforms development, creates new capabilities and enhances existing capabilities, which in turn enhances revenue, profit and eventually more investment in investment and as such every elements in the loop reinforces the other. Negative loops, on the other hand, are balancing in nature. Negative feedback loops stabilize the system and bring in equilibrium (Forrester, 1961; Forrester, 1968; Richardson and Pugh 1981). For this reason negative feedback loops help define policies for the system.

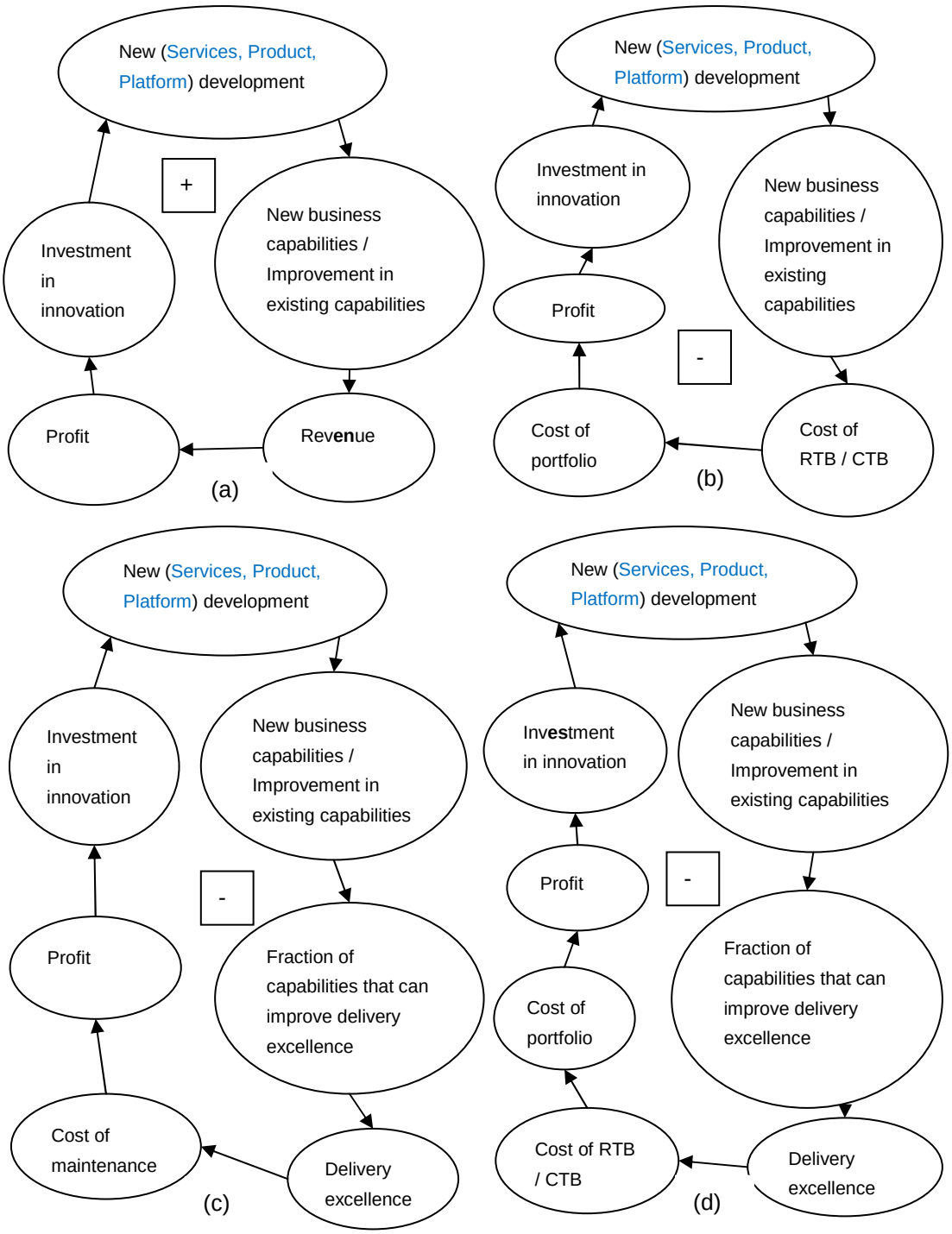

Figure 3. The feedback loops

5. The elements of delivery excellence

Delivery excellence is one of the key elements in the dynamics of Run the business and Change the business. Its centrality comes from the fact that some or other projects are always on in business organizations either internally or outsourced to external organizations. This is specially so for project and programmed based organizations. And, majority of organizations fall in this category.

Even when organizations build new capabilities or improve upon the existing capabilities they need to launch projects and programmes, and delivery excellence comes into being. Author has gleaned the elements of delivery excellence given in figure 4 from his experience. These elements are by no means unique and exhaustive, but they are most likely to appear in any framework defined for delivery excellence.

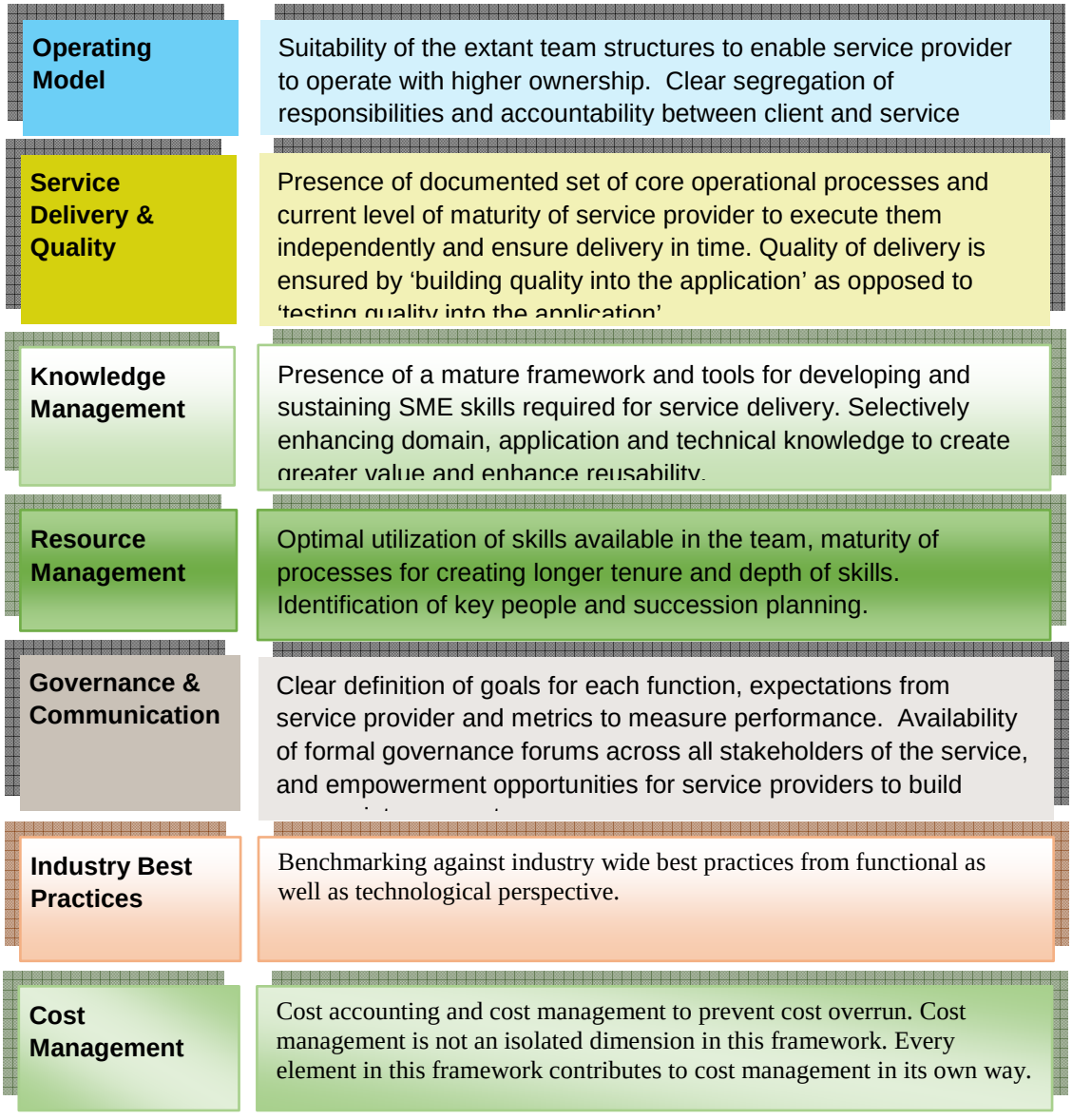

Figure 4: The Framework

Figure 5 shows how the elements of delivery excellence are related and how they interact.

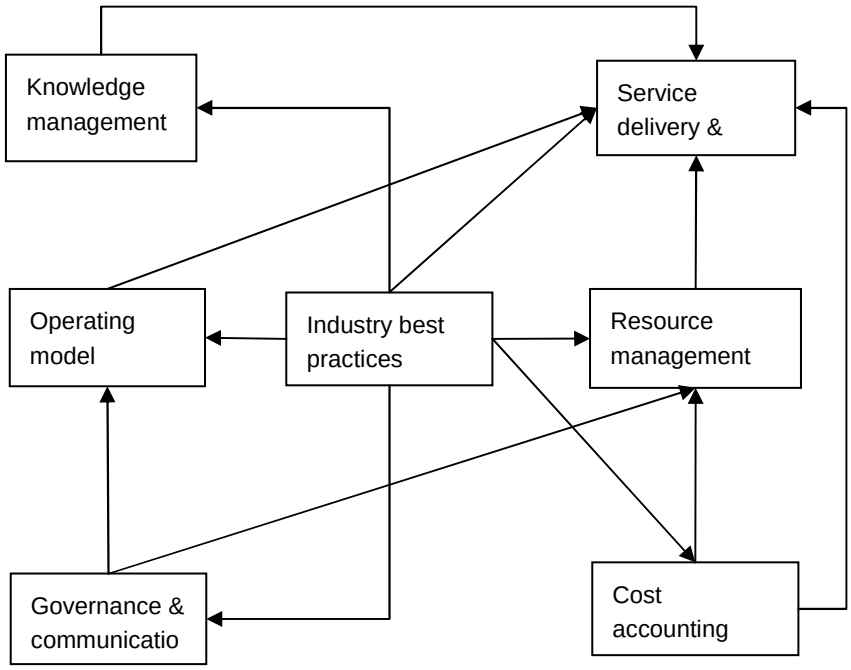

Figure 5. Elements of delivery excellence interact

6. Conclusion

This paper discussed Run the business and Change the business issues in business enterprises and the role of delivery excellence therein. The discussion was focussed on enterprise IT. However, underlying implications are extendible and generalizable to cover the entire enterprise. Under the influence of market forces all enterprises have to continuously build new capabilities and improve upon their existing capabilities. These capabilities building endeavours are projects. The moment projects come into being delivery excellence comes along.

A lot of investment has been made in the domain of IT infrastructure to reduce the operational cost (RTB) of enterprise IT. A number of organization across global landscape have come up in the last decade to address the issue of reducing the cost of IT operations so that scarce enterprise resources are invested in building capabilities to Change the business. Information technology (IT) has a long standing refrain that while it helped automate other businesses IT itself remain predominantly manual. This situation is changing fast. The agents of change in the world of enterprise IT pressure on CIOs to transform IT from cost controlling instrument to instrument of revenue growth.

To take this study forward we to answer several questions. But, first the questions. What it takes to extend the phenomenon of RTB and CTB from the domain of enterprise IT to the

entire business organization? Change the business is about strategizing and transformation. What role Information Technology (IT) can play in strategizing and transformation of a business enterprise? Can IT effectively express business strategy and change in business strategy effectively? What is the status of IT and Business dichotomy? Author feels that the problem of IT and business alignment can be understood and resolved only when IT-Business dichotomy is appreciated and resolved.

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Integrating the strategy-project system for competitive survival

Paul D Gardiner

Abstract

The paper explores value creation processes across the PPPM system and how integration with the broader strategy-project system can offer organisations new opportunities for competitive survival. Drawing from a resource-based foundation, theories of strategic management, dynamic capabilities, activity configurations and structuration are used to explore examples from empirical data of strategic learning leading to new project-based capabilities. The paper argues that these concepts are taking research in project management in a new direction by recognizing the importance of integrating the strategy system with the PPPM system. The paper considers how relationships between different levels of capability, for example strategic learning, dynamic and operational, when integrated effectively can enable firms to respond quickly to new threats and opportunities. The role of excellence in project management is considered as a contributing but insufficient factor for competitive survival. Drawing from recent strategy and PPPM research, the paper offers a theoretical and empirical perspective that can be applied by organisations, particularly those having a projectised or p-form structure, to increase competitive resilience in a dynamic global market. The paper concludes that the PPPM system is not only an enabler of strategy but also an agent of change for new strategy.

Key words

Strategy-project system, dynamic capability, PPPM, competitive survival

1. Introduction

A recent survey showed that 90% of global senior executives and project management experts say: ‘good project management is key to the delivery of successful results and gaining a competitive edge’ (Economist Intelligence Unit, 2009); however, little research has been done to fully understand how project management contributes to organisational learning and competitive advantage and there have been few empirical studies on project management as a strategic asset (DeFillippi and Arthur, 1998; Jugdev, 2004; and Jugdev and Mathur, 2006). Nevertheless, it has long been considered that strategic resource assets contribute to a firm’s competitive position and tend to be knowledge-based (Amit and Schoemaker, 1993). This paper aims to shed light on the mechanism by which project management adds value to organisations and helps maintain or extend competitive advantage.

Although all organisations seek to use and develop their project management resource assets effectively, the role and function of project management in successful organisations has evolved from doing projects right to doing the right projects (Crawford et al, 2006), and is now firmly focused on the relationship between project management and other knowledge domains, such as strategy, organisation learning, knowledge and value creation (Bredillet et al, 2005; Canonico et al, 2013). Project management gives an organisation the capability to

do the work of projects, i.e. to get projects done. In this sense project management is a capability. However, dynamic capabilities reside in the potential to change resources, routines and competences; they reside in the routines rather than in the resources themselves (Regnér, 2008). Recent research in project management reflects a shift in focus towards themes such as complexity, social processes, value creation, broader conceptualisations of project management and project managers as reflective practitioners (Winter et al, 2006). This paper explores value creation through the reconfiguration of decision making capabilities in an integrated project, programme and portfolio management (PPPM) system. Readers will find methodological arguments for using dynamic capabilities, structuration and activity configurations to help achieve a clearer understanding of how the PPPM system is integrated with the strategy system to create new value.

Increasingly, scholars agree that strategy realization, and hence innovation, growth and long term sustainability, is achieved through an organisation's PPPM system (Bredillet et al, 2005; Crawford et al, 2006; Jamieson and Morris, 2004; Pellegrinelli and Bowman, 1994). The field is evolving and further research is needed to strengthen theoretical understanding of PPPM systems by seeking to answer questions such as: How does evolutionary learning take place in a PPPM system, and to what extent do organisations currently achieve this? In this context, evolutionary learning is taken to encompass learning for sustainable competitive advantage in complex situations (Bosch et al, 2013; Shrivastava, 1983; Yao et al, 1996).

On the contemporary research agenda for project management are themes that integrate strategy, value creation and an integrated PPPM system. There is a pressing need to model and understand the mechanism by which project management contributes to sustained organisational performance by studying at a micro-level the activity configurations and the influence of dynamic capabilities and knowledge management and as a result the learning processes and reconfiguration of PPPM capabilities. The following sections of this paper present a brief literature review, conceptual framework and results of a recent pilot study analysis (see also Gardiner, 2014; Gardiner and Eltigani, 2014). A major goal of the paper is to stimulate further debate in the research of these concepts and how they can help organisations to develop excellence in their PPPM systems.

2. Literature review

In 2004, Söderlund published on 'adding value through project management' (Soderlund, 2004) followed in 2006 by research which recognised 'value creation as the prime focus of projects, programs and portfolios' (Winter and Smith, 2006). The concept of project management as a means to add value was also demonstrated by Mir and Pinnington (2014) in a study based in the United Arab Emirates (UAE) and, elsewhere, Mathur et al (2007) and Killen et al (2012) have published on the competitive value of project management. This research draws on the concept of business value shaped by the works of Drucker (management by objectives) and Porter (value chain analysis) in which a resource-based view of the firm is argued to provide a balance between the internal and external processes in which a business operates (Tywoniak, 2007).

The concept of business value and its appropriation was refined by Barney as a necessary condition for achieving competitive advantage (Barney, 1991 and Barney, 2002). In this

sense, value creation is seen as part of a team process in which a network or configuration of resources work together and influence each other creating opportunities for synergy rather than a purely mechanistic process. The concept of business value has also been linked to project success (Gardiner and Stewart, 2000) which in turn has been shown to be influenced by the national culture of the different stakeholders (Ojiako et al, 2014). In the contemporary strategy literature, value is often discussed alongside dynamic capabilities which are considered by many to be pre-requisites to achieving sustained competitive advantage in turbulent environments.

The strategy literature has continued to debate and add to the concept of dynamic capabilities since Teece et al's landmark publication in 1997. It is not the purpose of this paper to delve deeply into this debate but to suggest extending the application of this theory into the area of project management and PPPM systems more generally, drawing on the recent theoretical position developed by Easterby-Smith and Prieto (2008) and Neilsen (2006), which explore possible relationships between dynamic capabilities, knowledge management and learning processes.

The function of portfolio management, in a PPPM system in which strategic priorities and available resources are continually monitored, is to ensure that resources remain allocated where they are most effective. Typically, this requires a dynamic response to internal and external changes that impact the portfolio and its alignment and potential contribution to strategy. At a structural level, many organisations have set up a PMO to help mediate this (Singh et al, 2009) and to provide learning and excellence processes, including standardisation and institutional consistency. Easterby-Smith and Prieto (2008) argue that the process of learning may be a central element in the creation and renewal of dynamic capabilities. Therefore, the examination of the processes by which firms learn is thus critical to understanding dynamic capabilities (Mahoney, 1995; Zollo & Winter, 2002).

To consider the relationship of dynamic capabilities to PPPM systems further it is useful to acknowledge a hierarchy of dynamic capabilities (Collis, 1994 and Winter, 2003) in which three levels of dynamic capability are recognised: zero level operational capabilities which get the work done, first level dynamic capabilities which have the ability to reconfigure resources into new operational capabilities, and second level learning capabilities by which an organisation can build new dynamic capabilities and transform itself into a learning organisation. In a PPPM system, we can consider these three levels as follows: (1) zero level PPPM capabilities or routines are represented by the project management practices, i.e. activity configurations of the project management resources shaped by the local context, knowledge of the actors and structuration effects; (2) first order dynamic capabilities dedicated to the modification of PPPM activities and routines, for example the practices within a PMO that shape, modify, tailor and institutionalise the project management practices; and, (3) second order learning capabilities that facilitate the creation and modification of new PPPM dynamic capabilities. These are fundamental organisational processes that enable organisations to learn and may be related to C-level leadership, HRM practices, organisation design, including culture, stakeholder engagement and knowledge management systems. The results of a pilot research project by Gardiner and Eltigani (2014) show a series of results chains in which a learning response has been triggered by internal or external events that 'could impact the PPPM system, moderated by structure to give rise to a

new dynamic capability'. Further research is needed to reveal relationship types between results chains and the project life cycle and to elicit patterns of value creation.

Projects have traditionally included 'lessons learned' processes to capture and share knowledge from one project to another. However, this process is still plagued with difficulty; there are fundamental issues within projects that inhibit such learning, such as the temporary nature of project organisations and the fundamental complexity of projects (Brusoni et al., 1998; Lindkvist et al., 1998; Prencipe and Tell, 2001; Williams, 2008). 'The balance between remembering-everything and remembering-nothing seems to be very much at the core of knowledge creation in projects' (Canonico et al, 2013). Gardiner and Eltigani (2014) argue that in many cases, practitioners continue to struggle to mine, use and benefit from the rich vein of value held in the lessons learned from projects.

Building on this and taking into consideration relevant strategy literature as advised by Killen et al (2012), e.g. Hamel and Prahalad (1990), and recent research on the role of the PMO, e.g. Michael (2009) and Rose (2011), this paper argues for a need to identify how organisations use different combinations of capabilities (e.g. leadership, knowledge management, innovation) in project management situations represented by unique activity configurations (the operational capabilities) that create and combine explicit and tacit knowledge to add business value.

3. Methodology

A useful starting point for a suitable methodological approach in this new direction for project management research is provided by strategy-as-practice scholars, such as Easterby-Smith and Prieto (2008), Neilsen (2006) and Regnér (2008). Figure 1 shows an initial conceptualization of Easterby-Smith and Prieto's framework that includes the PPPM system, the strategy management system and the PMO (Gardiner, 2014).

Most research in project management to date has studied single projects, programmes and more recently portfolio management and the evolving role of the PMO. Increasingly, it is expected that project management research will break new ground by integrating PPPM systems and combining existing ad hoc research on project management, knowledge management and lessons learned as shown in the conceptual framework of Figure 1 that shows the relationships between dynamic capabilities, knowledge management, learning processes and how they enable the configuration and reconfiguration of PPPM system resources in response to market dynamism and other challenges.

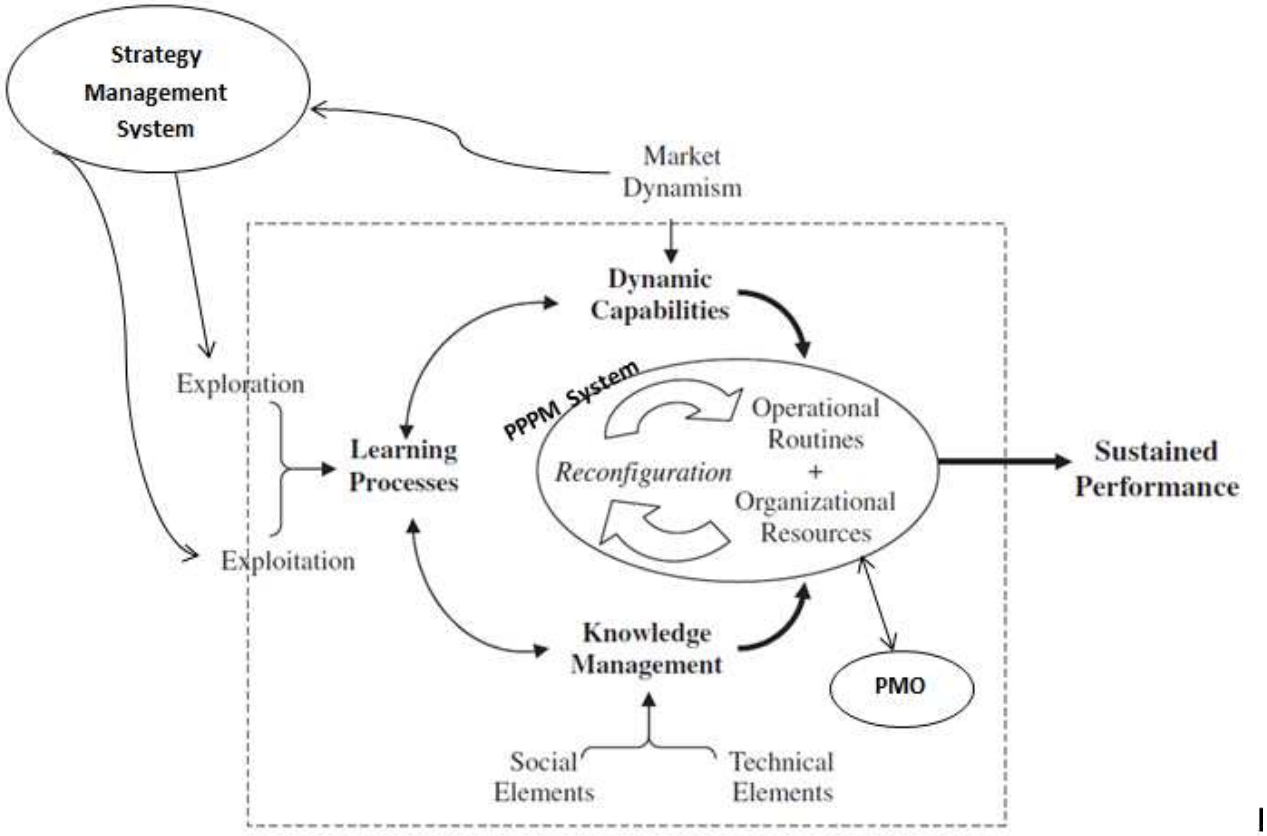

Figure 1: Initial conceptual framework (Gardiner, 2014)

In a development of Figure 1, the structural properties (rules and resources) that govern the activities of the PPPM system have been separated from the actual actions of actors (learning and reconfiguration); in other words, representing separately what organizations have from what people do is a deliberate and practical methodological shift. The reconfigured conceptual framework is shown in Figure 2.

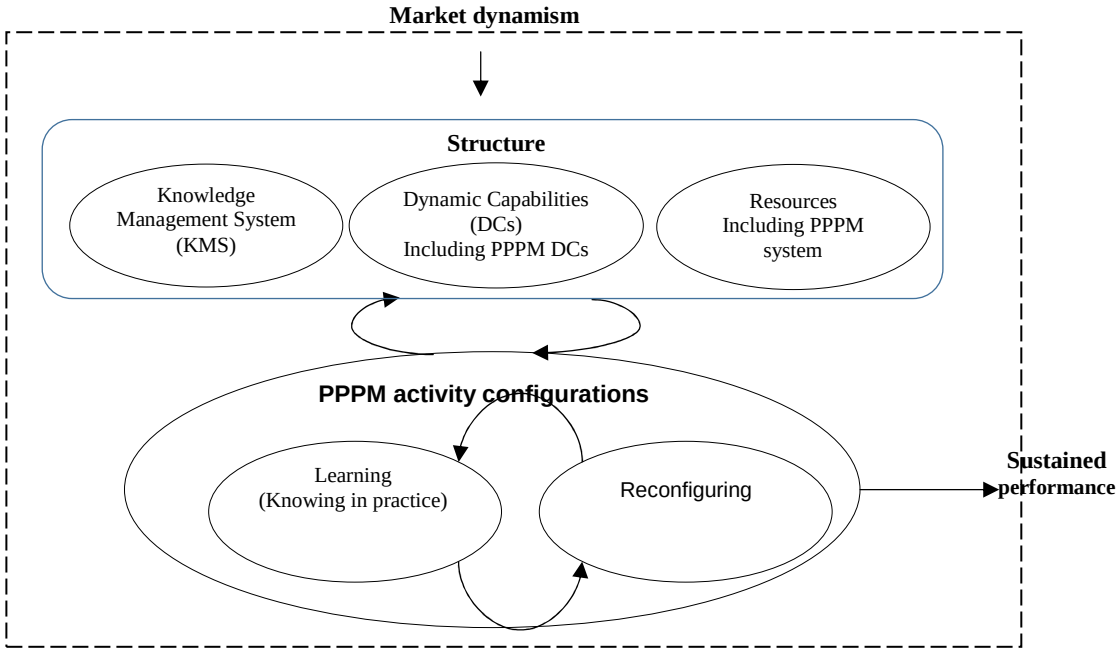

Figure 2: Conceptual framework for studying value creation in PPPM systems (Gardiner and Eltigani, 2014)

The lens of investigation in the framework in Figure 2 is based on the structuration theory of Giddens (1984). The actions are outlined as activity configurations (Regnér, 2008), which means a collection of actions that form an observable set of activities that can be observed and analyzed by the researcher. The social structural properties include the organizational structure, polices, procedures and in particular those related to the PPPM system. The reverse arrows between the structure and the activity configurations indicate that actions draw from the structural properties and that the structure itself is an outcome of actions, as outlined in the concept of duality by Giddens (1984). As opposed to Easterby-Smith and Prieto (2008) the learning aspect and tacit knowledge are placed in this model within the activity configurations. This is in line with perspective of 'knowing in practice' developed by Orlikowski (2002). The two major parts of the conceptual model are:

Structure: This includes the rules, resources and capabilities. Another important aspect of the structure is knowledge management as a system including explicit knowledge, while knowledge of how things are done in practice (traditionally referred to as tacit knowledge) is part of the activity configurations, as explained below.

PPPM activity configurations: This is the human action. It includes the activities of actors in performing PPPM related activities; more specifically, those concerned with reconfiguration of existing resources and capabilities. This part of the model draws from the structural properties including dynamic capabilities and is primarily responsible for reconfiguration and development of new capabilities that are required to meet changing environments. The activity configurations also include the process of learning or knowing in practice. The

assumption here is that tacit knowledge is an active element of 'knowing' and is inseparable from action (Orlikowski, 2002). It is intended to test this framework in future research.

4. Pilot study

Pilot data was collected in the UAE from organisations in the oil and gas, telecommunications, engineering and real estate sectors (Gardiner, 2014; Gardiner and Eltigani, 2014). The pilot study involved 4 interviews in different organisations as explained above using a semi-structured questionnaire to explore at a low or micro-level the main areas in the conceptual framework. The interviewees were encouraged to explore how project management practices evolve and improve, followed by requests for real examples and probing into how these examples came about, e.g. by chance or through some other process operating in the background. In this way, the three levels of capability could be explored without requiring the interviewer to be aware of each level; as far as they were concerned they were just explaining the practices relating to project management and the various influences, moderators and mediators on them. Pilot study organisations:

A. Aviation industry, responsible for design and construction of megaprojects in the aviation industry, operating in UAE and internationally.
B. Telecommunications, responsible for networks and services across national territories, involved in product and service development, strategic projects and operational rollout projects.
C. SME real estate turnkey consultancy, involved in niche market in middle east, typically involving high risk ventures that other companies chose not to compete for.
D. National oil and gas company operating in UAE and other Arab nations.

The four interviews resulted in about 3.5 hours of recorded interview data which has been transcribed and analysed manually. In stage two of the research, data coding and analysis software will be used. For the purpose of this paper, the results are presented as a series of recounted practices that show relationships between the variables discussed earlier in the conceptual framework. Some remaining challenges are also described that have not been resolved yet: these can be further explored using the conceptual framework in stage two. These practices are summarised from the verbatim transcripts and shown in Table 1.

Org	The organisational learning process and how it was invoked	Existing or new dynamic capability or knowledge management practice	PPPM system capability based on new activity configuration	Ongoing challenges
A	Strategic response to a major negative financial event linked to an internal process and massive	Triggered the creation of a new organisation-wide knowledge management system.	New capabilities emerged based on projects' lessons learned and leading to actions: process modifications, redesigns and additions.	To keep the learnings up to date and responsive to changing market trends as they happen.

	rework on high quality architectural finishes.			
B	Strategic response to an increase in the number of internal cross functional strategic projects.	Creation of a corporate PMO which has informal mentoring and coaching relationships with the line function project managers, deliberately leaving accountability for their work in the line organisation.	New capabilities formed by influencing project managers, showing how project management adds value, helping them solve their own problems.	To increase awareness of the new capabilities and get buy-in from more project managers who are based in line organisations.
A	Strategic response to market volatility.	HRM practices directed at staff retention and motivation, e.g. team recognition, bonuses, financial motivation, internal recognition, freedom to act and be innovative.	Because recognition is linked to performance it encourages positive practices and sharing - best people are rewarded and stay, those who do not perform tend to leave.	To identify and reward the 'enablers'; to encourage the 'dis-enablers' to move on.
B	Strategic response to what is happening in the market.	Focus groups, hiring experienced personal from other markets, partnerships with vendors and suppliers – we spend real money on that, plus classroom based learning.	People learn new capabilities relevant to our culture and national context and which are based on current market needs.	Keeping ahead of the game in terms of market trends and fashions.
C	Strategic response to market needs in our specific niche market which is high risk	Tap into tacit knowledge that comes from our outsource partners – most business operations are outsourced – we provide financial incentives and a stake of the business to them.	They buy into the business model and share tacit knowledge openly to ensure the business works – we learn from this and develop new capabilities relevant to our projects	Maintaining the balance between reward given and knowledge obtained.
C	Strategic response to a major negative financial event	Knowledge management processes ensure key	Dealing with external entities from different countries –learned not to	Learning 'the hard way' is a powerful lesson; the

	linked to an internal process and resulting in project abandonment and major losses	learnings are captured and actioned to form new processes.	believe what they say even from top officials, ambassadors and ministers –if not on paper it's worth nothing.	challenge is to see it coming.
B	Corporate PMO response to changing organisation structure	CPMO modifies and adjusts the project management methodology which originated as an off-the-shelf method	Project managers learn new capabilities underpinned by the evolving method in the company delivered though mentoring and in house training.	How to increase the percentage of project managers who use the method.
D	Corporate PMO response to increasing numbers of cross-functional projects	CPMO started to outsource project management	Brought in new capabilities which got up to speed within 4 to 6 weeks; added bonus was they came with new knowledge about project management processes and willing to share	Tapping in to the tacit knowledge available from the outsourced project managers.
D	Strategic response by CPMO to increasing volume of cross functional projects.	CPMO director enhances knowledge management in the business unit by bringing in external experts for events and knowledge sharing.	Knowledge from experts is shared and seen to reflect other knowledge in the company, re-enforcing its validity so that more project managers take notice.	
A	Strategic response to a shock where contractor claimed for a lot of money	Senior managers set up operational readiness processes and now educate contractors about it.	New processes, reduces operational risks after project completion where everyone blames each other if a fault occurs	How to improve and optimise.

Table 1: Examples of results chains based on the conceptual framework and empirical pilot study data

5. Discussion

Project management research has refocused itself in recent years to incorporate multidimensional measures of project success, business results and benefit management, networking and alliances, strategy implementation and the effects of national culture. There is a growing realization that project management excellence lies beyond the espoused bodies of knowledge produced and managed by the PMI, APM and IPMA among others and the predominantly 'know-what' knowledge domains they represent and that it must now consider

the tacit or ‘know-how’ knowledge as part of its value-added processes. This research has drawn from research literature in PPPM, dynamic capabilities and knowledge management to suggest a framework in which activity configurations or ‘value steps’ can create opportunities to add new business value. The significance of this research is that it challenges organisations to focus less on the codified explicit knowledge, important though that is, and to consider the various ways in which they can configure their project management resource assets to add value from simple projects to megaprojects, for example, by integrating complementary practices such as cost reduction, project management training, leadership development, knowledge management and building innovation capacity.

The preliminary results from the pilot study show reasonable alignment with the proposed theoretical framework in Figure 2. Table 1 show a series of results chains in which a learning response has been triggered by internal or external events that could impact the PPPM system, moderated by structure to give rise to a new dynamic capability which in turn spawns one or more activity reconfigurations that offer new PPPM capabilities. As these capabilities are embedded in the social, political and cultural environment in which the organisation unit is based, this makes them difficult to imitate, and so more likely to give competitive advantage. This augurs well for future studies to explore this area more fully. The resulting framework of activity configurations can be used by UAE organisations and organisations in other parts of the world to plan and optimize their project management resource assets which in turn will contribute to overall business efficiency.

The pilot research aligns with current UAE government priority areas aimed at creating ‘a dynamic open economy’ and ‘economic development’ (Abu Dhabi Economic Vision 2030). The research is aimed at helping UAE organisations, and to give food for thought to other global organisations, to develop their project management assets objectively as part of an integrated system focused on increasing value and competitive advantage.

6. Conclusion

This paper presented a literature review and preliminary investigation using theories from the strategy and knowledge management literature applied to a PPPM context to explore the relationship between the variables that influence business value and competitive advantage. Based on the results achieved so far, it is tentatively suggested that organisations should seek to understand further how dynamic capabilities, learning processes and knowledge management interact in ways to configure and reconfigure their project management resource assets to add additional business value from simple projects to megaprojects. In this way, future research can be aimed at understanding the increasing importance of tacit knowledge sharing in project management, for example, through leadership, innovation, HRM and knowledge management practices. The research was conducted in the United Arab Emirates, though it is expected that some generalisations of the findings will be possible.

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Workshop report Theme 1
Business orientation of projects

Moderation and Report: Antonio Calabrese and Tom Taylor

1. Introduction

The sub-group 1 focused the discussion mainly on three points that appeared more relevant after the seminar presentations and an initial brainstorming:

- Role of PPP(P)MO: resources, processes, selection, etc.;
- Borders & Conflicts among PMs, Line Managers, projects;
- Role & competences of PM: Businessman? Entrepreneur?.

The sub-group 2 focused the discussion also mainly on three points that appeared more relevant after the seminar presentations and an initial brainstorming:

- Business risk vs Project risk;
- Long term vs Short term perspective;
- Sustainability.

The following participants joined the session:

Mitra Arami (Kuwait), Daniel Baumann (Switzerland), Kadir Bedir (Turkey), Camilla Børrestad (Norway), Antonio Calabrese (Italy), John Hermarij (Netherlands), Joanne Huang (Germany), Haukur Ingi Jonasson (Iceland), Inga Klaus (Poland), Mark Langdon (United Kingdom), Peter Milsom (Canada), Katrin Reschwamm (Switzerland), Ivars Rungis (Latvia), Yasser Salem (Switzerland), Marisa Silva (United Kingdom), Tom Taylor (United Kingdom), Patrick Treichler (Switzerland), Marcel Wild (Switzerland)

2. Discussion

2.1 Features of PP&PMO

It was recognized that there were a variety of features the might be provided by Project, Programme and Portfolio (and Enterprise) Management Offices – as “PMOs”.

The decision will be made by the business – since they will probably be paying directly or indirectly, making resources available with expectations on timing of coming on line and being effective.

It was recognized that the project management community may need to advise and guide the business side on the possible features of PMOs to optimize their contributions.

Possible features that were noted include provide

- Project management services
- Project management resources from a central pool, against needs and criteria
- Aggregate views of projects, programmes, portfolios
- Reports to Carpet-suite on project performance against targets, with recommendations
- Standardized design, engineering and quality management systems, frameworks and documents
- Standardized processes and procedures, tools and techniques, documentation
- Risk analyses and reviews, at project and business levels
- Independent progress and budget monitoring
- ICT services and support - with helpdesk
- HR services and support - to project staff
- Education, training, competence policy and provisions
- Trouble shooting of difficult situations
- Collection, storage and availability of knowledge, experience and lessons
- Health, safety and welfare standards
- Accessible guidelines on behavior
- Purchasing and procurement systems, services, documents
- Contract and legal guidance and services
- Feedback to project teams
- Etc.

2.2 Analogies of roles

A discussion took place on the problems of roles and titles and whether the division between business and projects was helpful or not.

Comparisons took place of team roles including for business people and managers, with the rock bands, sports teams and orchestras.

Project managers as the glue in their project was mentioned and endorsed.

Self-organising teams were discussed – over long term.

The difference between project managers and managers of projects was further theme.

2.3 Project Managers as Business Entrepreneurs

It was agreed that the client/owner/customer/sponsor/end user/etc. should produce and own the entrepreneurial aspects of the project – rather than the project manager. However the project manager should have a “sense of business” and should know what the project is “for”.

Good project managers will be committed to the business aspects of the project as well as the project itself; and this may be achieved motivated by the business people to add to self-motivation generally and by research for the project in question.

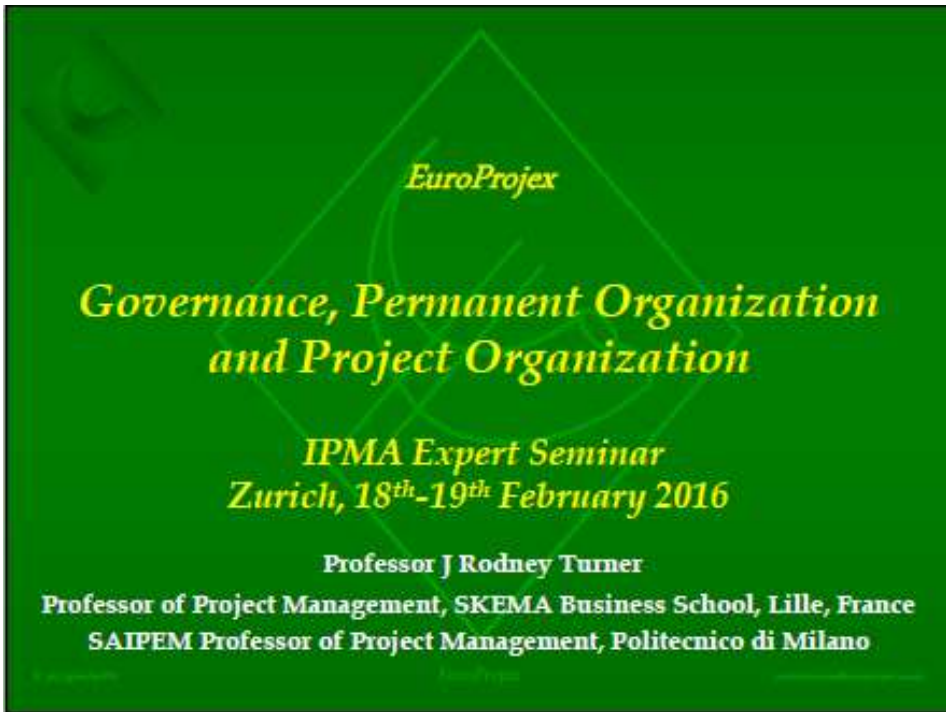
Normally, a project is not an end in itself; it is an investment of the project owner and shall pay back with adequate benefits in a near or longer future. It creates business opportunities (in a general sense), and charges from interest, depreciation, usage and maintenance, during the product life cycle.

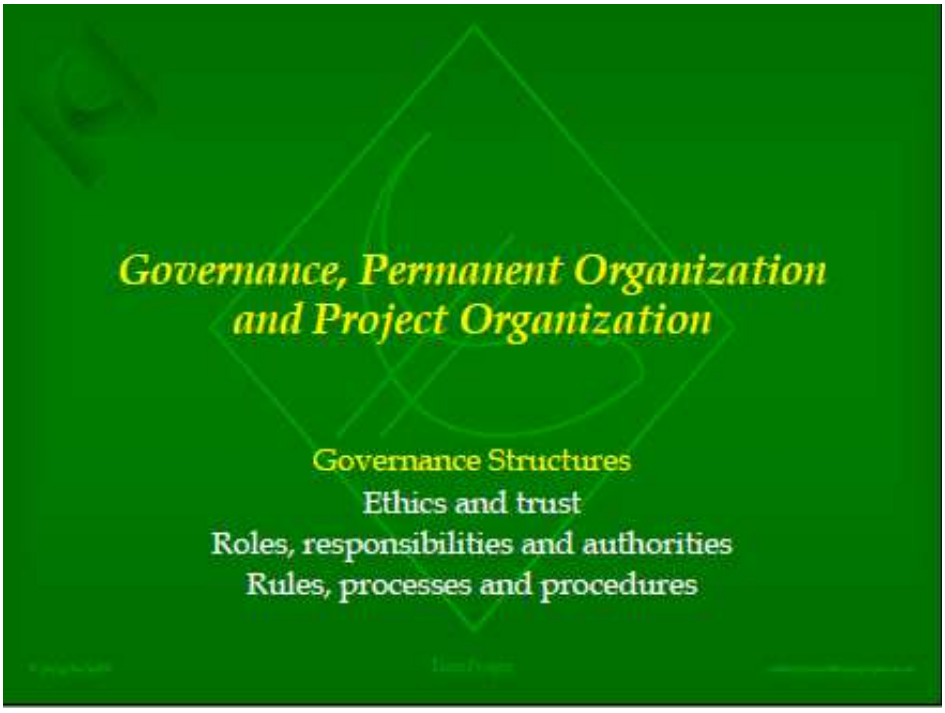
2.4 PP&PM Relationships

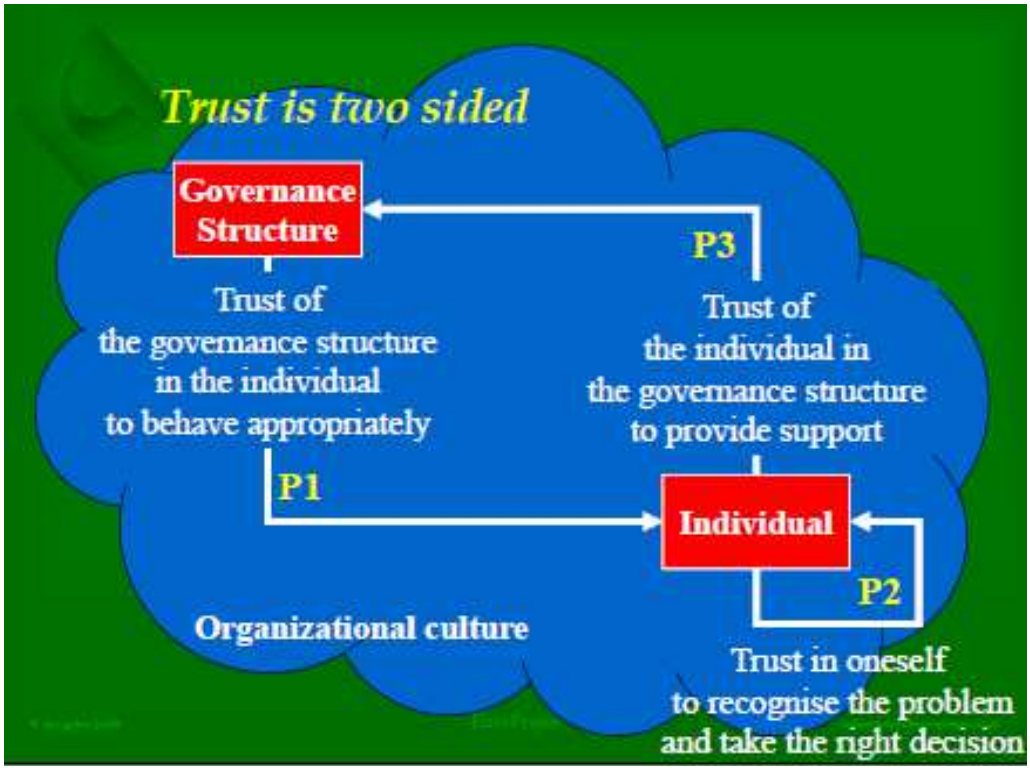
A discussion took place on the relationships between projects, programmes and portfolios; also their relationships to and from the business-as-usual. Also might projects include Parcels and Packages. Finally it was asked whether there were other things that influence the portfolios (and programmes and projects) such as Policies, Principles, Principals, Politics (and politics), Perspectives – and possibly business.

Governance, permanent organisation and project organisation

Rodney Turner







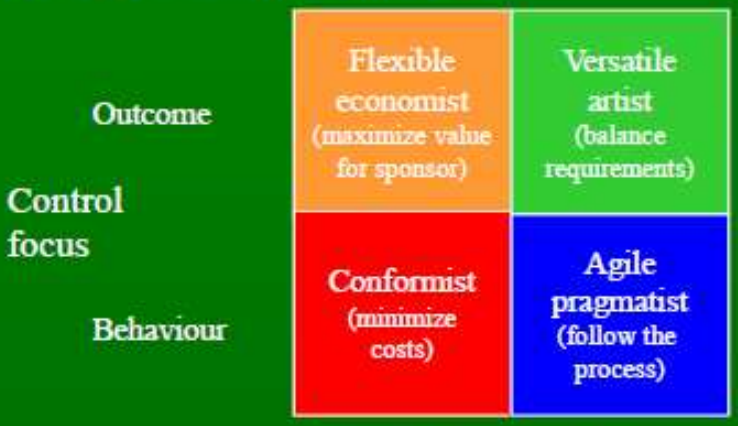
Three views of governance

- Control system
  - for directing and controlling organizations
  - for balancing economic and social goals
  - for balancing individual and communal goals
- Processes
  - to direct and control organizations
  - and define rights and responsibilities of stakeholders
- Relationships
  - between internal and external parties to the organization
  - and their rights and responsibilities


Governance structure
Rules, processes and procedures
Roles, responsibilities and authorities


Two streams of governance research
Design
design of governance approaches at different levels
projects, programs, portfolios, networks, company
and how they influence each other
Consequences
what are the results of adopting different governance structures
and how the influence expectations

Four governance paradigms

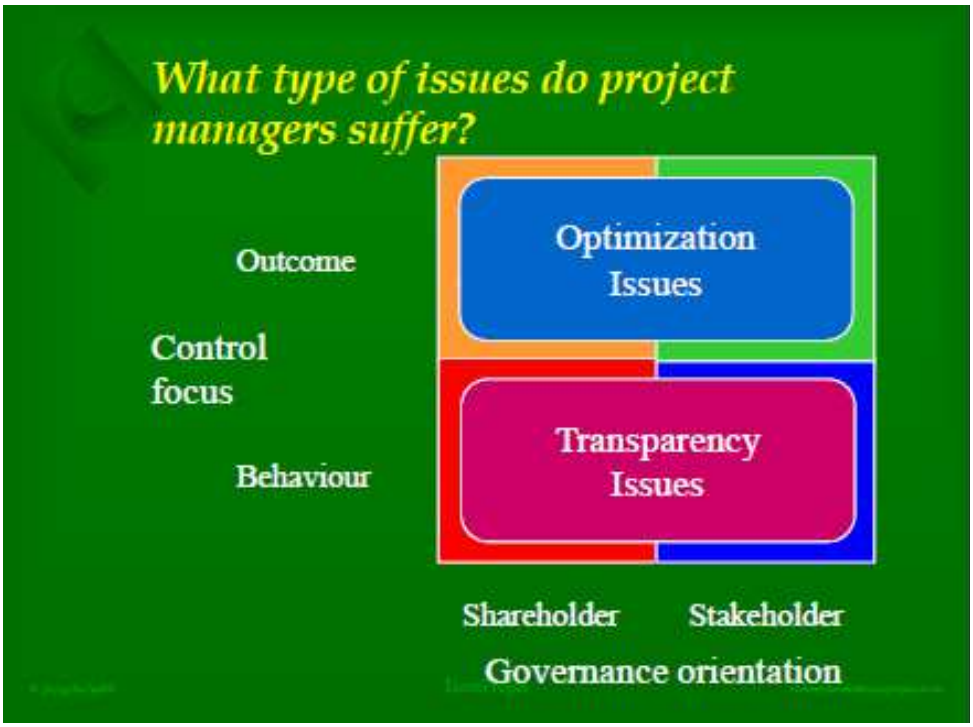


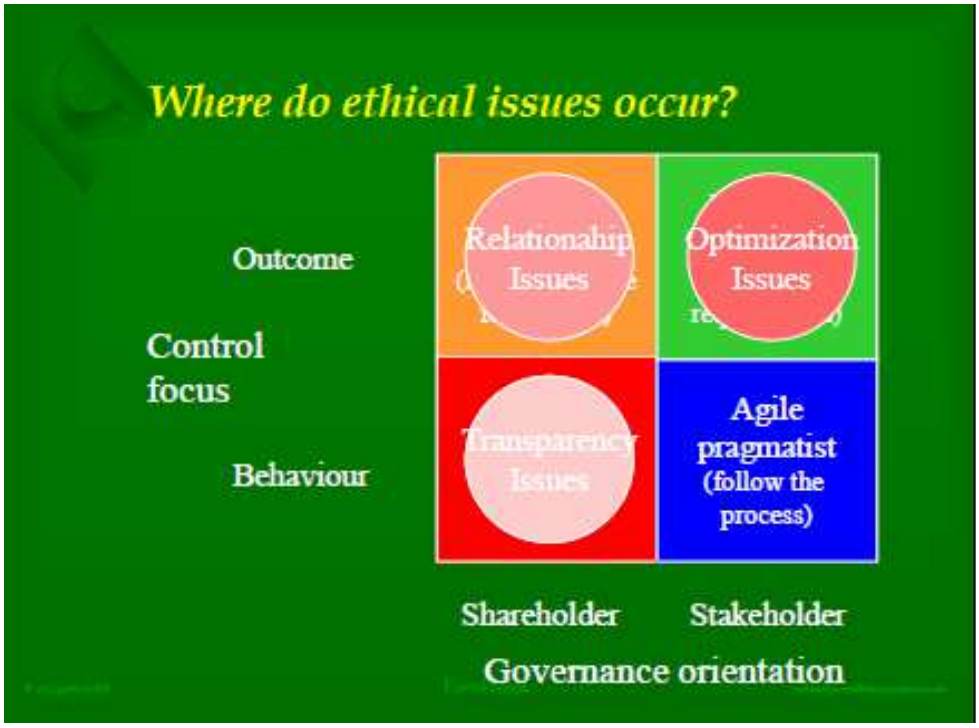
Types of ethical issues faced by project managers

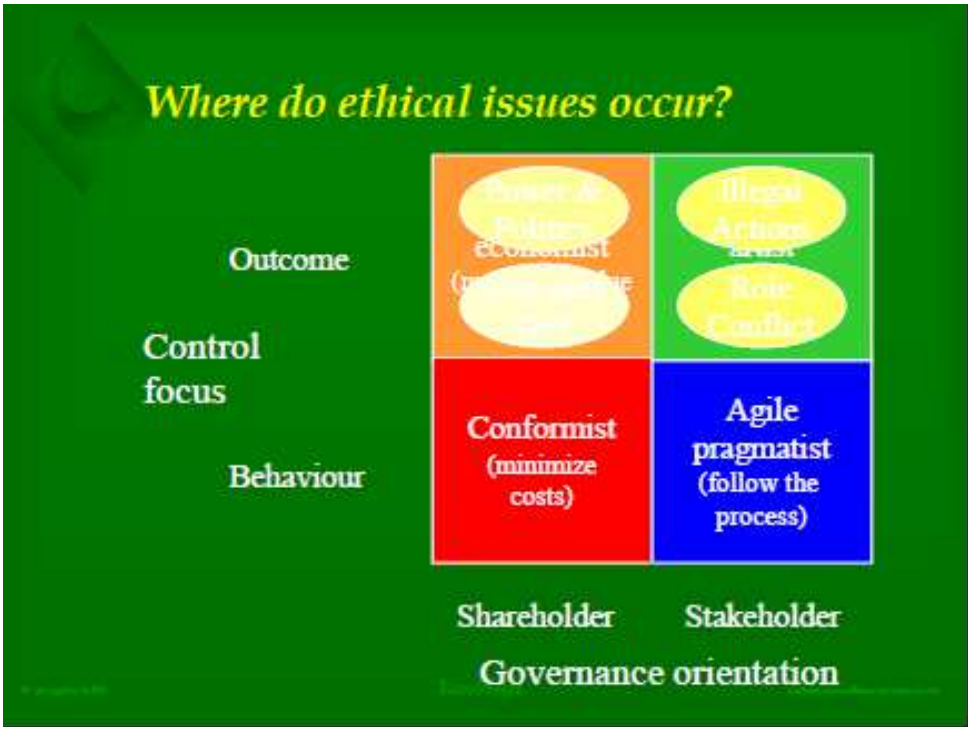
1. Optimization issues
2. Transparency issues
3. Relationship issues

4. Power and politics
5. Illegal actions
6. Role conflicts
7. Underperforming governance structure


Do project managers suffer ethical issues?
Outcome
Control focus
Behaviour
Flexible economist (maximize value for sponsor)
Most Issues
Fewest Issues
Agile pragmatist (follow the process)
Shareholder
Stakeholder
Governance orientation


What type of issues do project managers suffer?
Outcome
Control focus
Behaviour
Optimization Issues
Transparency Issues
Shareholder
Stakeholder
Governance orientation


Where do ethical issues occur?
Outcome
Control focus
Behaviour
Relationship Issues
Optimization Issues
Transparency Issues
Agile pragmatist (follow the process)
Shareholder
Stakeholder
Governance orientation


Where do ethical issues occur?
Outcome
Control focus
Behaviour
Conformist (minimize costs)
Agile pragmatist (follow the process)
Shareholder
Stakeholder
Governance orientation

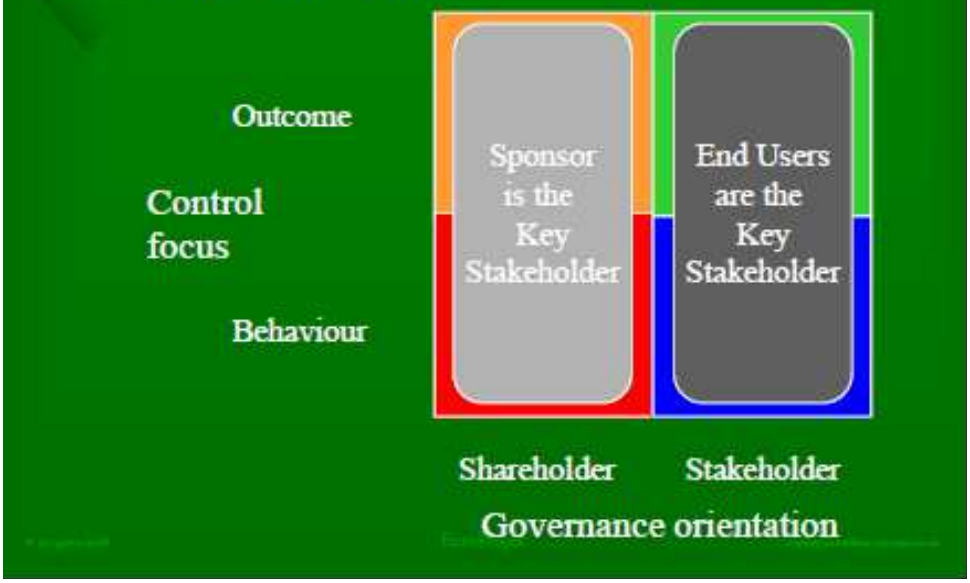

Does the project manager seek help to solve ethical issues?
Outcome
Control focus
Behaviour
Flexible economist (maximize value for sponsor)
Least likely to seek help
Most likely to seek help
Agile pragmatist (follow the process)
Shareholder
Stakeholder
Governance orientation

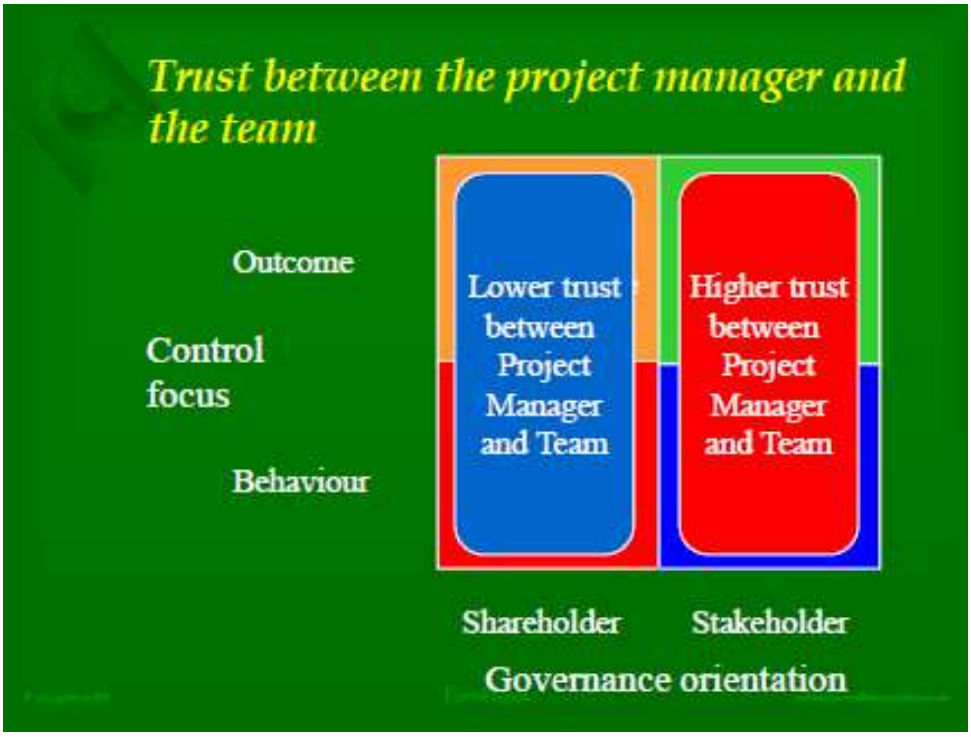

From where does the project manager seek help to solve ethical issues?
Outcome
Control focus
Behaviour
Steering Committee
Supervisor
Shareholder
Stakeholder
Governance orientation

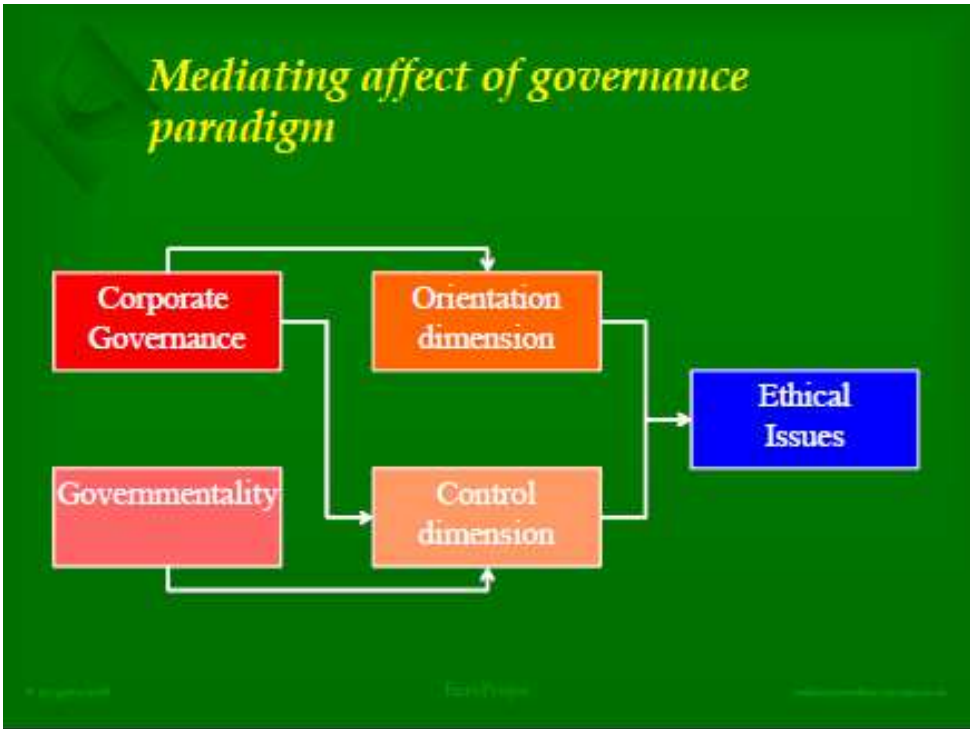
Seeking help

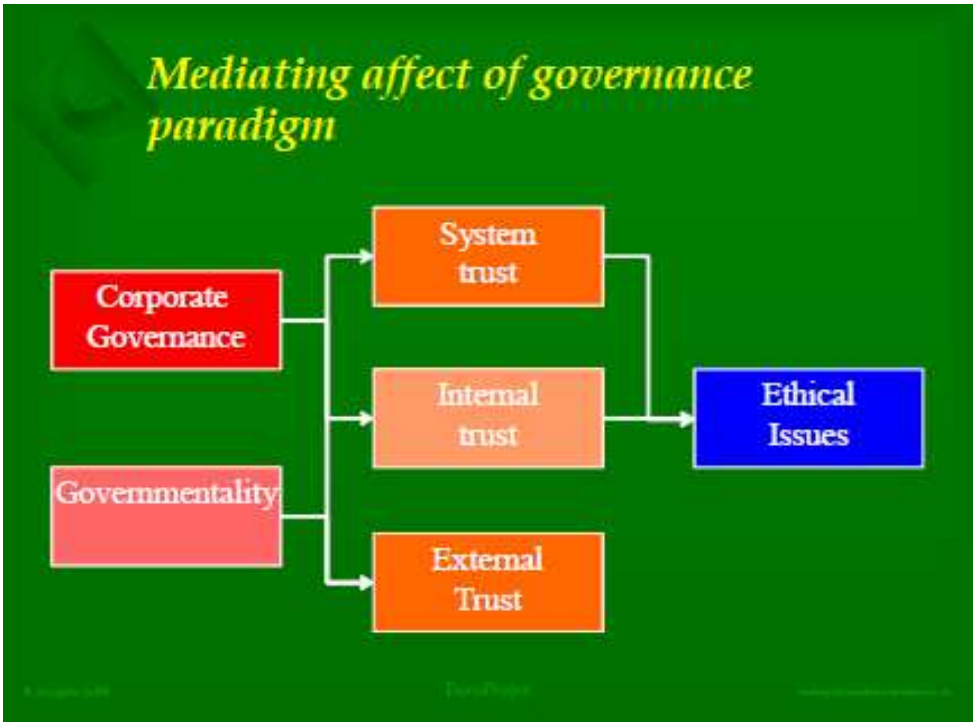
- Project managers with most authority seek help least often
- Type of ethical issue
  - supervisors usually consulted
  - except power & politics – steering committee
  - except underperforming gov structure - steering committee
  - illegal actions – also rules and regulations
  - role conflict – also colleagues
- Help sought most often on IT projects and least often on construction projects

Key stakeholders



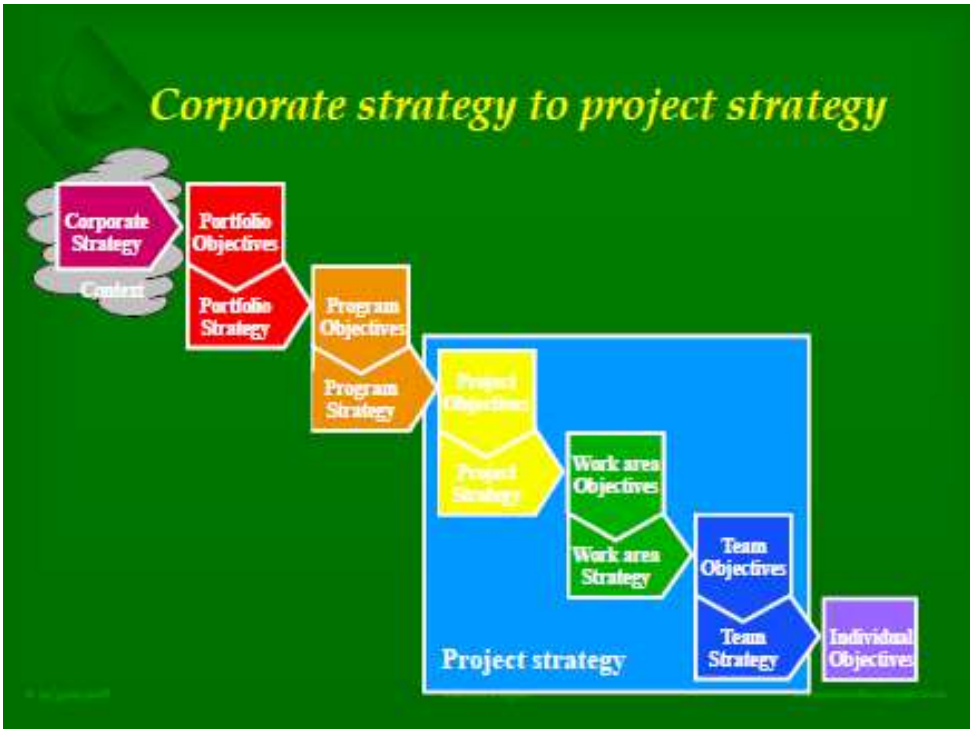

Trust between the project manager and the team
Outcome
Control focus
Behaviour
Lower trust between Project Manager and Team
Higher trust between Project Manager and Team
Shareholder
Stakeholder
Governance orientation

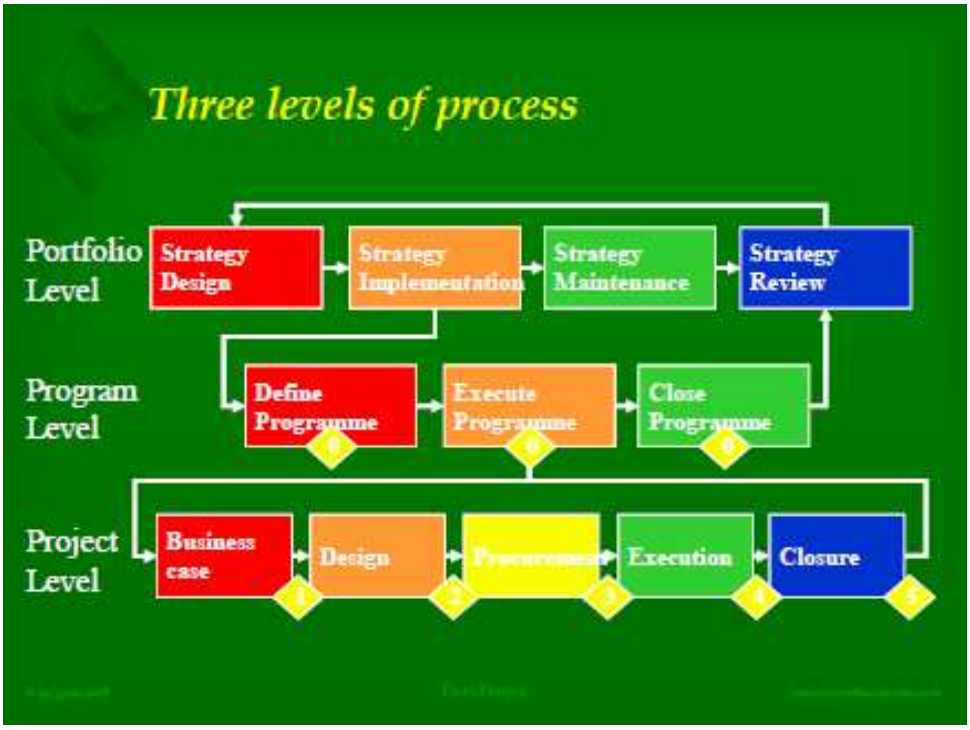

Mediating affect of governance paradigm
Corporate Governance
Orientation dimension
Ethical Issues
Governmentality
Control dimension



Roles, responsibilities and authorities

- Portfolio managers
- Program managers
- Project managers
- Line managers
- Administration
- P3M office

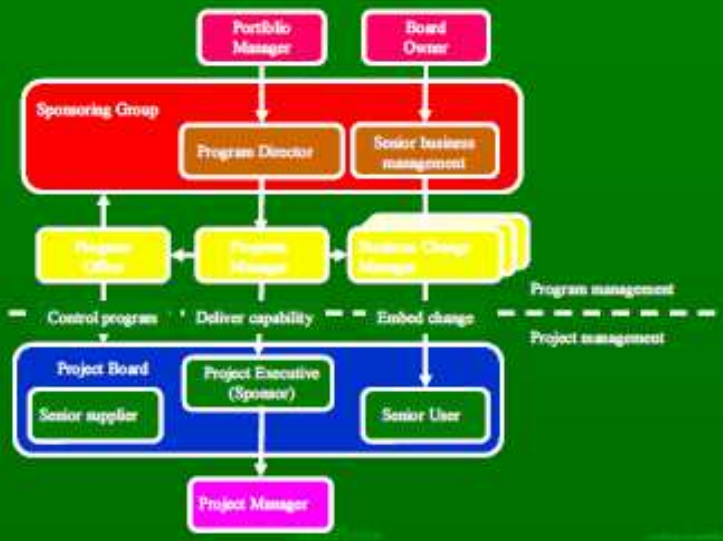

Corporate strategy to project strategy
Corporate Strategy
Context
Portfolio Objectives
Portfolio Strategy
Program Objectives
Program Strategy
Project Objectives
Project Strategy
Work area Objectives
Work area Strategy
Team Objectives
Team Strategy
Individual Objectives
Project strategy

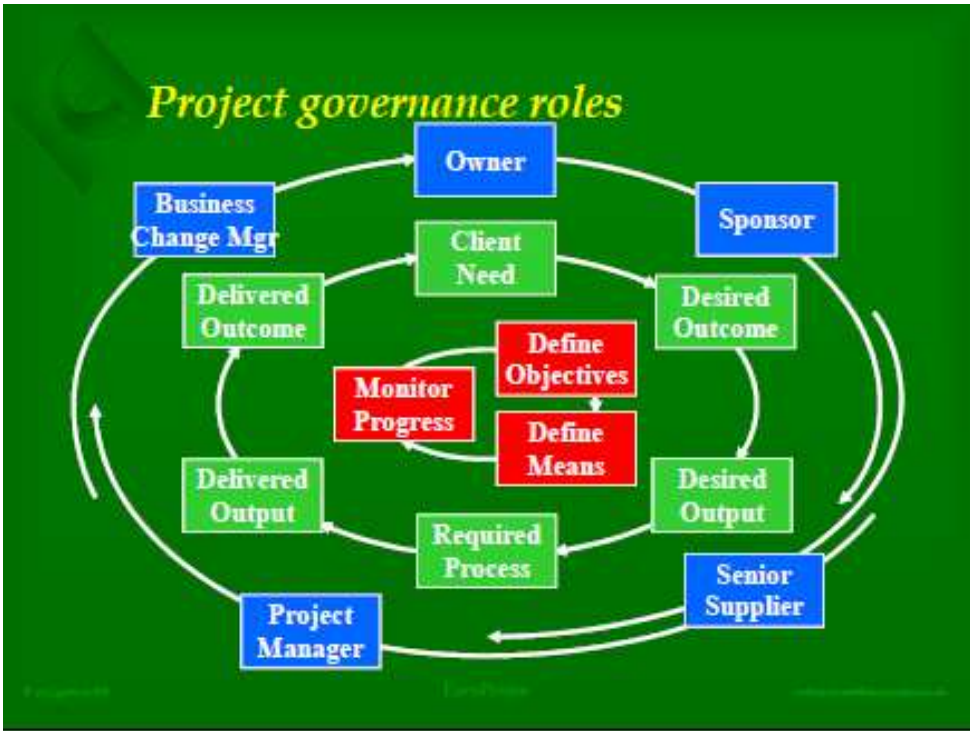

Three levels of process
Portfolio Level
Strategy Design
Strategy Implementation
Strategy Maintenance
Strategy Review
Program Level
Define Programme
Execute Programme
Close Programme
Project Level
Business case
Design
Procurement
Execution
Closure

Steps of portfolio management

- Step 1: Awareness of ongoing projects through a project data-base
- Step 2: Awareness of the status of all projects through a project reporting system
- Step 3: Projects are prioritized and selected through transparent procedures
- Step 4: Resource needs for all projects are planned and assigned centrally
- Step 5: Business benefits of projects are evaluated post completion for continuous improvement

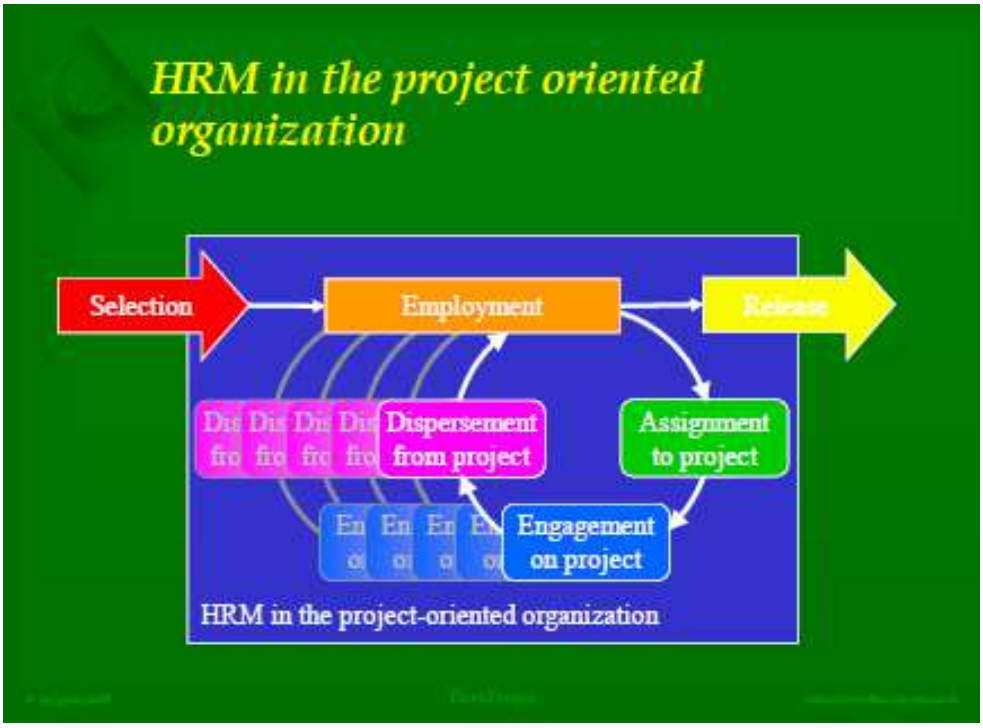
Program governance roles

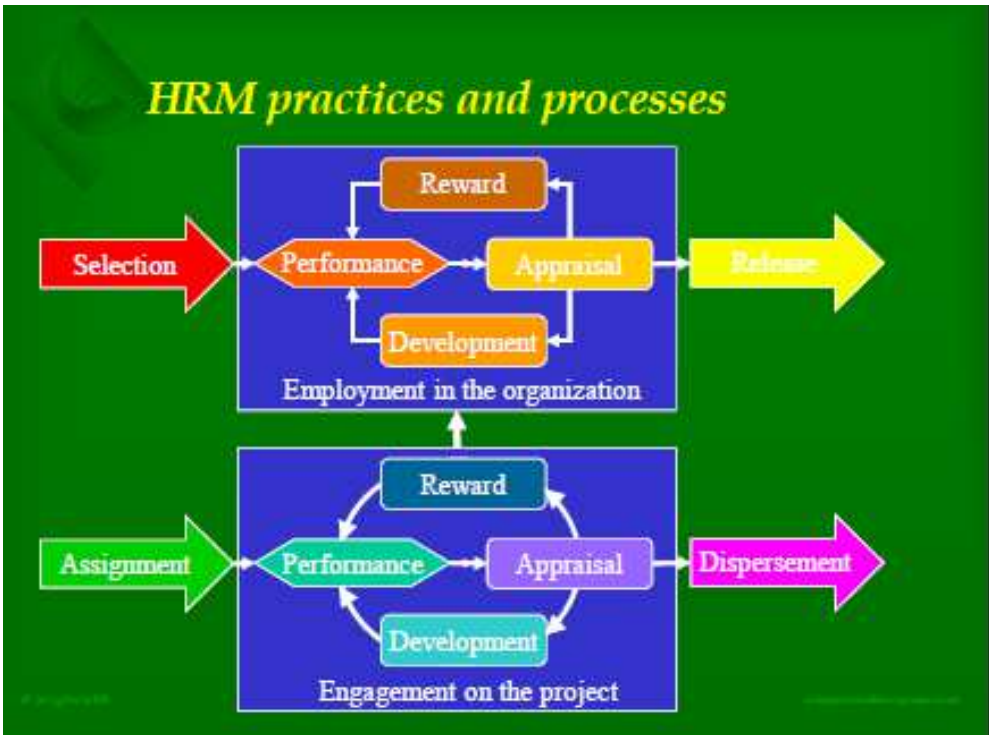


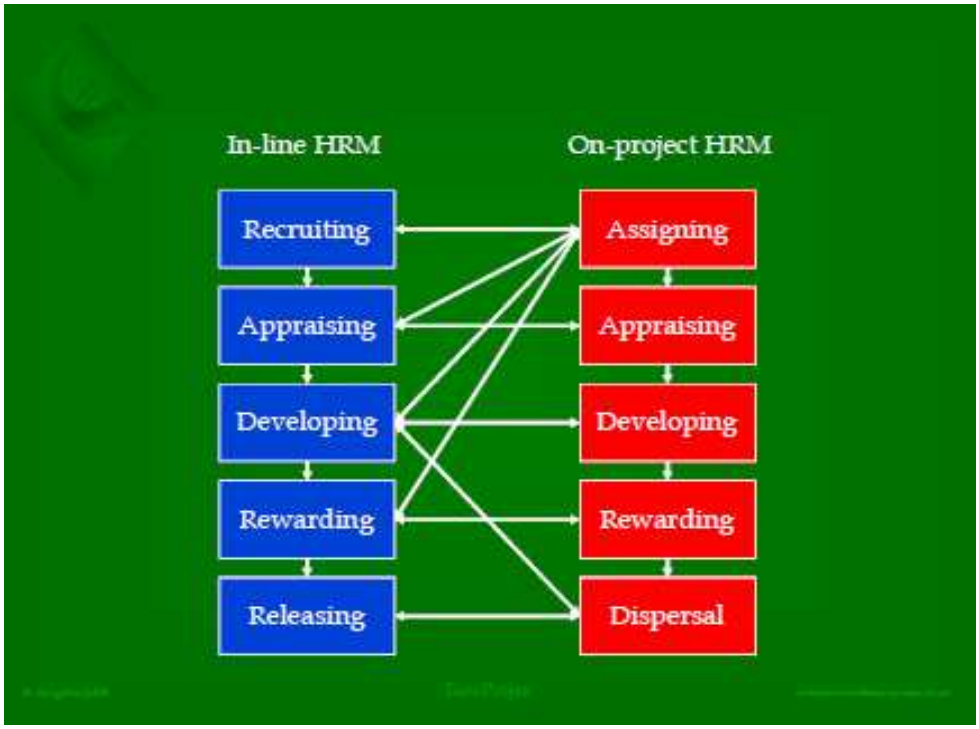


Roles of line managers

- Appraisal, development and reward
- This is the correct approach
  - these need to be aligned with timescales longer than the duration of projects


HRM in the project oriented organization
Selection
Employment
Release
Dispersement from project
Assignment to project
Engagement on project
HRM in the project-oriented organization


HRM practices and processes
Reward
Selection
Performance
Appraisal
Release
Development
Employment in the organization
Reward
Assignment
Performance
Appraisal
Dispersement
Development
Engagement on the project



Line-project tensions

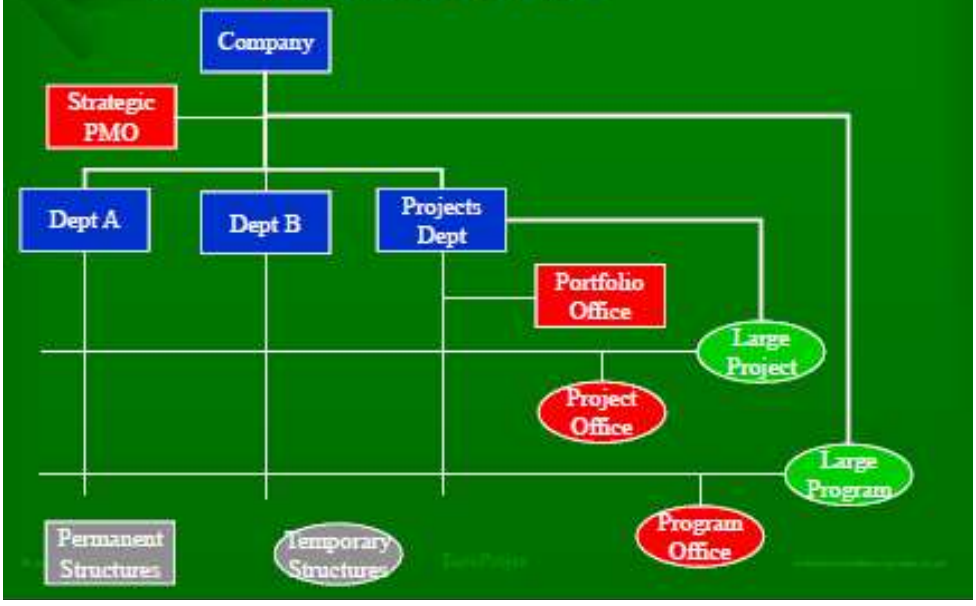
- Are people's careers and annual bonus aligned with performance in the line or performance on the project
- Is the line manager's annual bonus aligned with his or her staff's performance in the line or on the project

Roles of the administrative managers

- Setting guidelines, rules, policies and standards
- Providing consultancy and advice
- Acting as arbiter

- Satisfying the needs of management
- Caring for the well-being of employees

Three positions of PMO




Twelve functions of the P3MO – Lynn Crawford (2004)
Linking projects to strategy
Planning and control
Resource management
Reporting
Purchasing/contracts
Audit/review
Lessons learned/ knowledge management
PM competency/careers
Communications
PM community
PM Standards
PM Tools


Processes should be linked ... ...
Vertically to strategy
support the strategic choice to be project oriented
Horizontally to other operational processes
support project-based working
motivate people working on projects
Horizontally to themselves
facilitate cooperation between line managers and project managers
Horizontally to the context
support employee well-being in the transient, dynamic context of projects

11 principles of the governance of projects

- Board has overall responsibility for governance of projects

Objectives, What, Doing the Right Projects

- Coherent and supportive relationship between business strategy and project portfolio
- Business case supported by relevant and realistic information

11 principles of the governance of projects

Means, How, Doing Projects Right

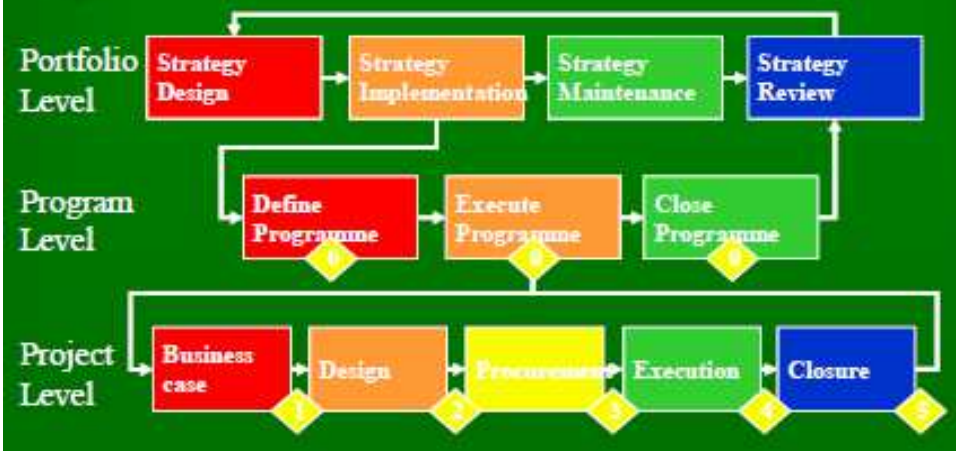
- Roles, responsibilities and performance criteria clearly defined
- Disciplined arrangements, supported by appropriate methods and controls applied throughout life-cycle
- Responsible managers have sufficient representation, authority, competence and resources to make decisions
- Stakeholders engaged at an appropriate level and in a manner that fosters trust

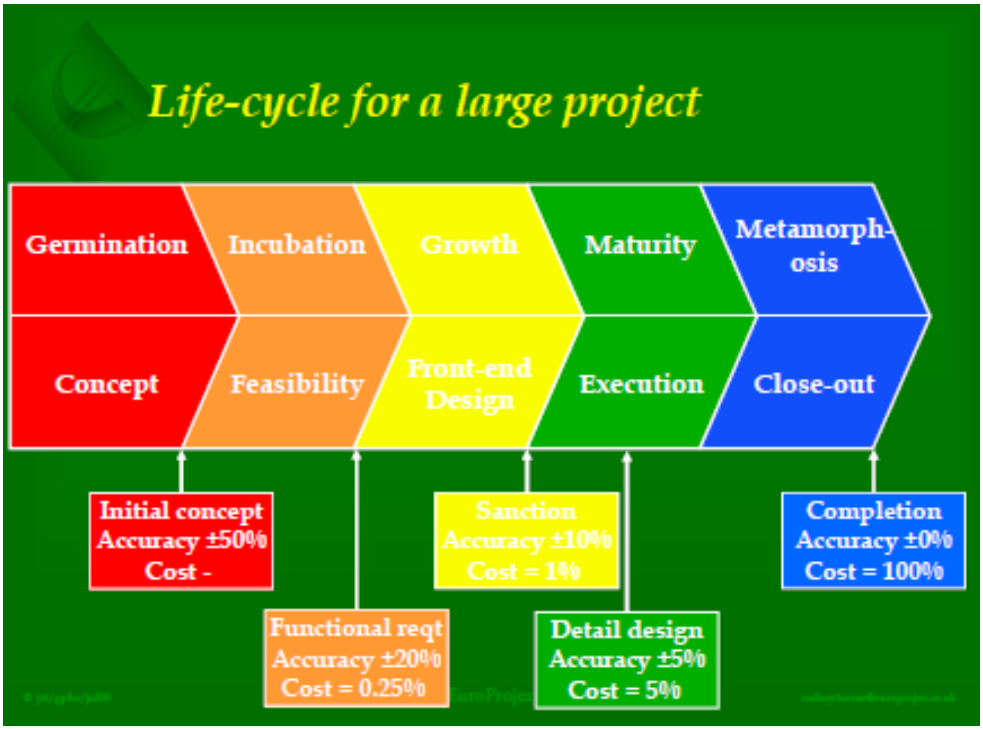
11 principles of the governance of projects

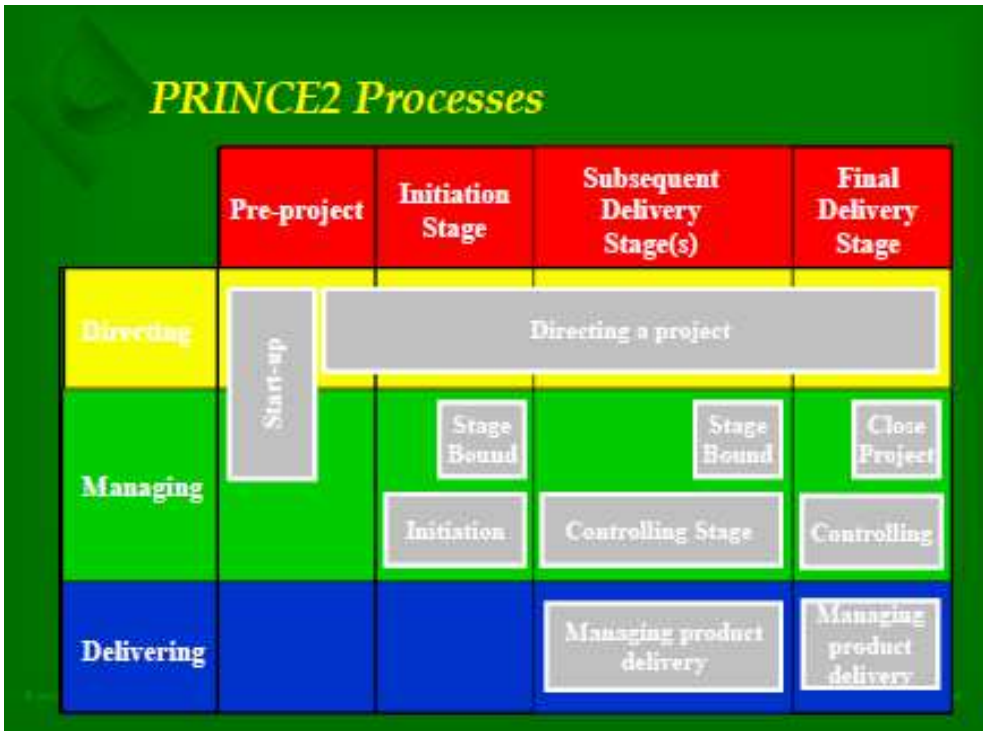
Monitoring Progress

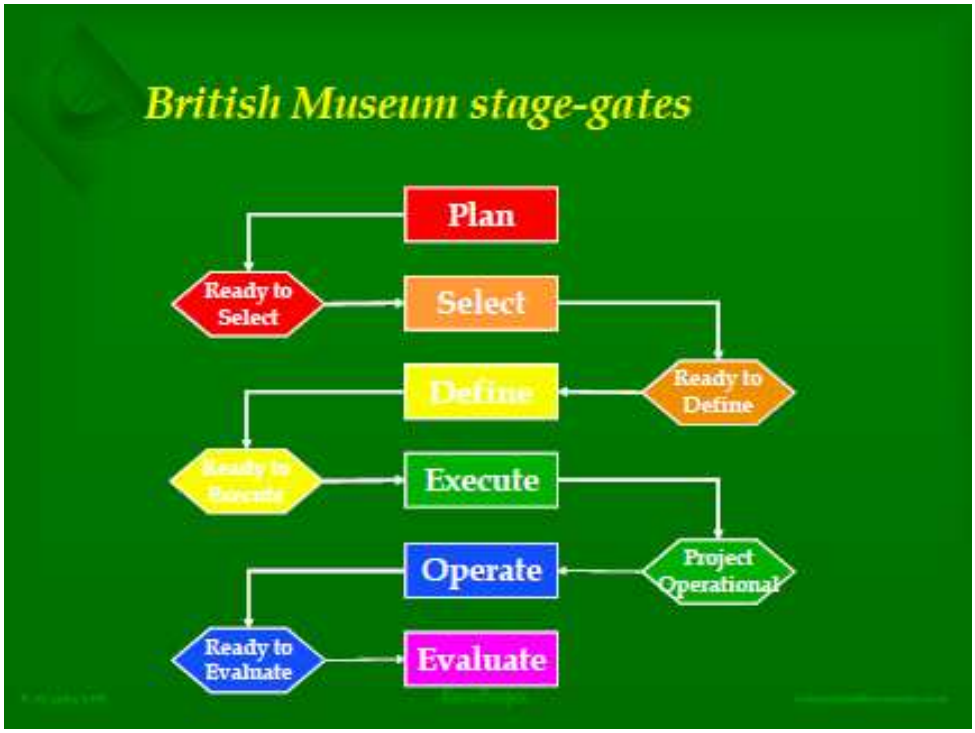
- All projects have approved plan with stage gates. Decisions made at stage gates clearly recorded and communicated.
- Board decide when independent scrutiny of projects required and implement such scrutiny
- Clearly defined criteria for reporting project status and escalating risks and issues
- Organization fosters a culture of improvement and frank disclosure

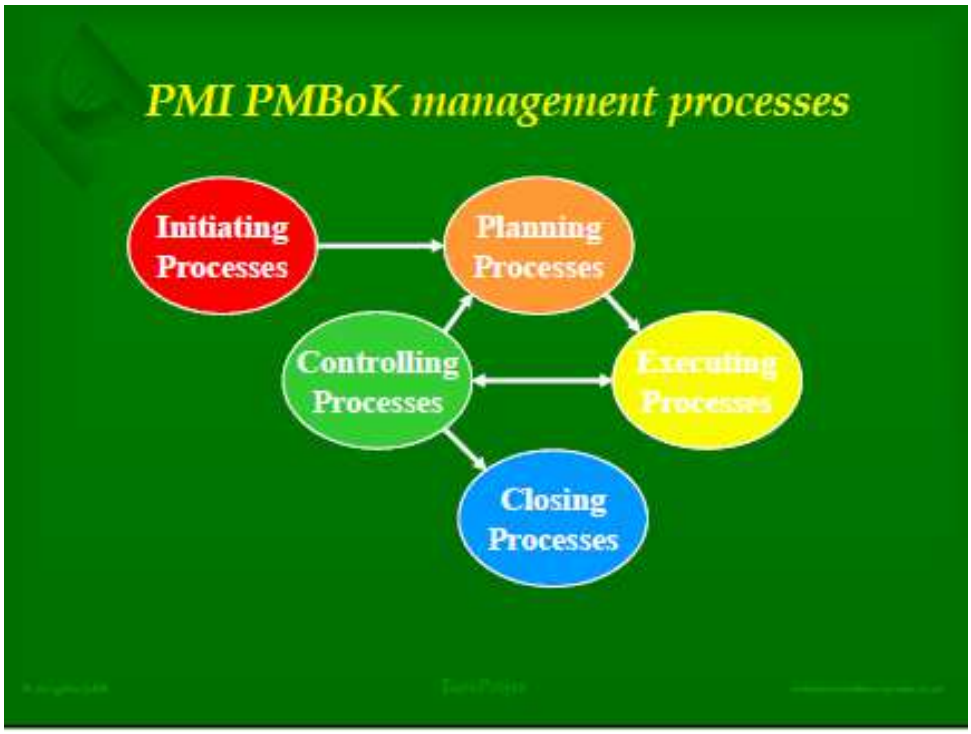
Three levels of process




Life-cycle for a large project
Germination
Incubation
Growth
Maturity
Metamorph-osis
Concept
Feasibility
Front-end Design
Execution
Close-out
Initial concept Accuracy ±50% Cost -
Functional reqt Accuracy ±20% Cost = 0.25%
Sanction Accuracy ±10% Cost = 1%
Detail design Accuracy ±5% Cost = 5%
Completion Accuracy ±0% Cost = 100%


PRINCE2 Processes
Pre-project
Initiation Stage
Subsequent Delivery Stage(s)
Final Delivery Stage
Directing
Start-up
Directing a project
Managing
Stage Bound
Stage Bound
Close Project
Initiation
Controlling Stage
Controlling
Delivering
Managing product delivery
Managing product delivery


British Museum stage-gates
Plan
Ready to Select
Select
Define
Ready to Define
Execute
Operate
Project Operational
Ready to Evaluate
Evaluate


PMI PMBoK management processes
Initiating Processes
Planning Processes
Controlling Processes
Executing Processes
Closing Processes


PMI's Ten BoK areas
Integration
Scope
Time
Cost
Quality
Risk
HR
Communication
Procurement
Stakeholders


That's All Folks
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Governance of Projects – An Information Model

Maria do Rosário Bernardo

Abstract

The paper presents the results of a study addressing the need for projects' visibility and control from a governance perspective, investigating how the governance style influences visibility and control information needs, how control metrics used differ among governance of projects structures, based on their control information needs for timely and accurate decision making. The study also investigates why projects' control information needs also differ depending on project typology and project contract types.

The study follows a qualitative approach based on a multi-case study of Portuguese IT project-based organizations

As a result, a complete governance of projects information model is proposed, combining the governance of projects functions information needs and projects categorization, integrated with the project based organization, contributing to expand the governance knowledge of those organizations.

Key words

Governance of Projects; Governance of Projects Structures; Project Management Indicators.

1. Introduction

Organization's business sustainability requires the establishment of governance structures and control systems over management activities to support business decisions. In particular, projects based organizations require specific governance structures over project management activities, adapted to the temporary nature of projects and supported by control systems. However, in many organizations, there is a gap in the governing surveillance of project activities (APM, 2004, 2011). This situation is no longer admissible, since organizational strategies are not limited to maximizing production results any more. Organizations are more concerned about addressing multiple market changes and improving the Organization's image on fields such as sustainability and social responsibility. The shift in the organization's strategic focus also changed the management paradigm approaches, from functional and bureaucratic to project-based (Turned & Keegan, 1999).

In this context, project-based organizations implement their strategies through projects, programmes and portfolios, managed under an adequate project management governance model, coexisting with the Organization's governance framework.

Crawford and Cooke-Davies (2005) stated that: *"As projects and programmes are the vehicles for implementing corporate strategies, effective governance of projects, within the corporate governance framework, becomes a serious concern for Organisations, offering to top management a clear visibility and control of non-routine corporate operations and delivery capability" (p. 1).*

In order to ensure that projects, programmes and portfolios are aligned with corporate objectives and stakeholders' expectations, clear visibility and control should be based on reliable and timely information, based on project management indicators, as part of the project´s control system, comprising not only the traditional project management metrics, designed for project management, but also those required for business decision making (Kerzner, 2013).

Based on the author's thirty years of IT projects field experience, project management performance indicators are taken from a tactical, short-time perspective, based on quantitative indicators such as time, costs and effort variances, and also number of defects. This perspective might be suitable for the management of projects but proves to be limited in the governance of projects, because it doesn't allow organizations to improve the projects' control systems, improving their governance structures and creating strong and reliable data architecture for fast decision making processes.

The purpose of this paper is to present the results from a research addressing the need for projects' visibility and control from a governance perspective presenting a consistent model for project management performance indicators, linked with the different organizations' governance of projects paradigms, distinct governance of projects institutions and distinct IT project types.

The next section describes governance and management indicators in the realm of projects, providing the conceptual framework used on the remaining study. This is followed by the methodological approach and the analysis of the results. Finally the paper concludes with discussion and suggestions for further research.

2. Literature review

Corporate governance is defined as a set of structures and relationships through which authority and organization control is exercised (Clarke, 2008; Cadbury Report, 1992; OECD, 2004; Turner et al., 2010a; Too and Weaver, 2014). Theories underlying corporate governance, including transaction cost economics (TCE), agency and stewardship, may be applied to the project management discipline with the following perspectives:

- Transaction cost economics (TCE) focuses on minimizing transaction costs and in doing so organizations should adapt their governance structures, taking into account complex relationships between buyer and seller and behavioural factors, such as bounded rationality and opportunism. Those factors determine the selection of different contract types for projects under way. TCE may be applied to the project management field by assuming projects as a particular type of transaction (Müller, 2011).

- Agency theory identifies an agent (principal-agent) relationship where both principal and agent are perceived as rational economic actors, but subject to self-interest. This requires a control oriented governance structure with its associated costs. Agency theory applied to project management field assumes that projects are agencies of the parent organization, where the sponsor (the principal) appoints a project manager (an agent) to manage the project on his behalf (Turner et al., 2010).
- Stewardship theory focuses on the organization's actor relationship, where actors are not motivated by self-interest, but aligned with organization objectives. The principal-agent relationship is viewed in a different perspective, shaped as a principal-steward one. For the domain of projects, the theory suggests an agency perspective for successful projects and a balance between agency and stewardship perspectives, for a collaborative project management focus (Müller, 2011, Turner et al., 2010a).
- Trust and control are the pillars supporting the relationship between project sponsor and project manager, to avoid agency problems and minimize transaction costs. Trust acts as a subjective control over the project manager and control acts as the rational and quantitative way for project control.

Corporate governance is also influenced by the organization's shareholder or stakeholder orientation, which may influence project management focus.

- Shareholders theory assumes that the main purpose of an organization is to maximize their shareholders return on investment, requiring governance structures to ensure that managers' actions are always done on the best interest of shareholders, since projects are realized to add value to the owner or sponsoring organization and, by doing so, they will provide value to shareholders. The governance structures, mainly the projects portfolio, should provide mechanisms to maximize shareholders' best interests.
- Stakeholders' theory focuses on a large range of interested parties rather than being restricted to the organization's shareholders, requiring governance structures that are stakeholder oriented and represented by stakeholders groups. In the project management field, even with the focus on value creation to organization shareholders, the project manager needs to have a broader perspective of stakeholders' interests and expectations.

Governance applied to the project management field may be represented in three levels (Turner, 2009; Turner et al., 2010a): Level 1: Is a sub-set of corporate governance that comprises the setting of goals for projects, programmes and portfolios as the means to attain corporate objectives, by which the board, and other stakeholders, are provided with visibility and control over projects, programmes and portfolios. Level 2: Is an extension of corporate governance that comprises the provision of systems, structures of authority and processes to link projects' objectives to corporate objectives, and providing organizations' capabilities and competencies to enable the successful implementation of projects, programmes and portfolios. Level 3: Is the governance of a single project that comprises the definition of the project objectives, the means to achieve objectives and the means for monitoring progress.

The present study covers the two first levels, with an intra-organization focus, and labels it as governance of projects (GoP). It also includes the APM (2004) approach; the two concepts presented by Müller (2009) (governance of projects and governance of project management); the Williams (2010) concepts of governance through projects and governance of projects; and 'project governance external to specific project' (Ahola et al., 2014), all of them dealing with the parent organization. This option is supported by Müller and Lecoeuvre (2014), with the argument that the governance of all projects and portfolios in an organization, often referred to as GoP, allows a global view of projects in a board level perspective, which is the focus of the present study.

Figure 1, summarizes the three governance levels, the boundaries of GoP and, additionally, includes external contracts which are part of the governance structures and aligned with the governance theories.

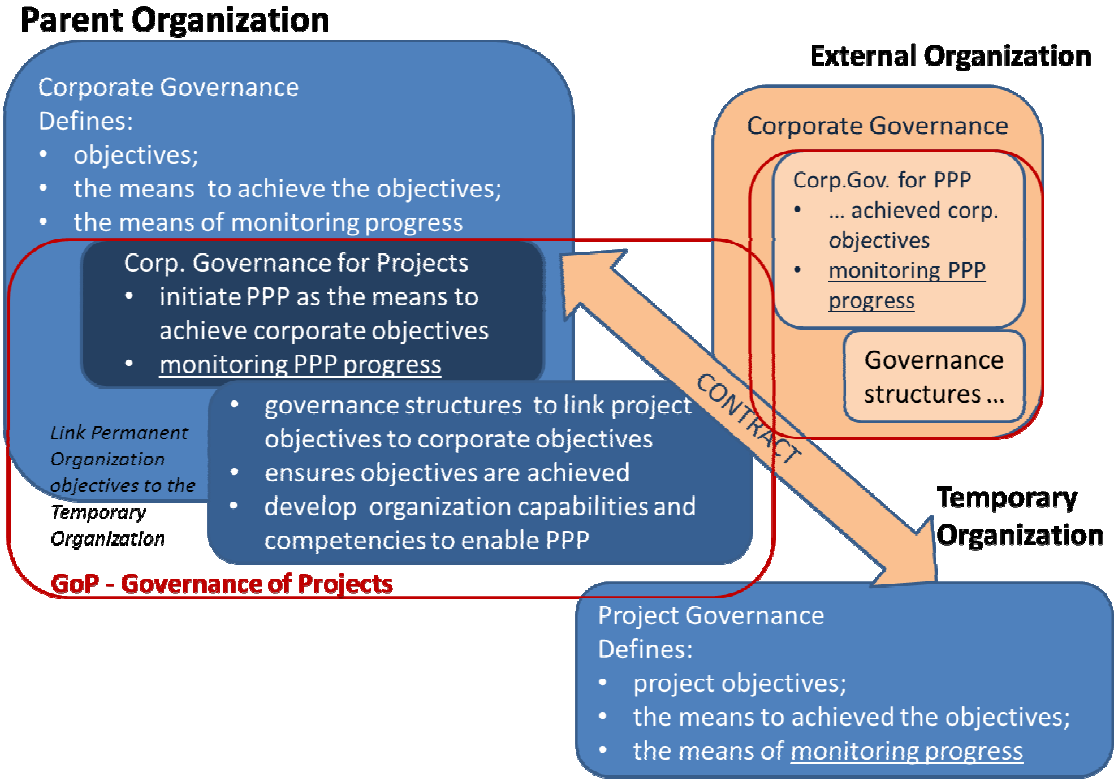

Figure 1 - Model of governance of projects functions information needs

The present study defines: Governance of projects is a sub-set and an extension of corporate governance. As a sub-set of corporate governance it comprises setting goals for projects, programmes and portfolios as the means of attaining corporate objectives and the means by which the board, and other stakeholders, are provided with visibility and control over them. As an extension of corporate governance it comprises providing systems, structures of authority and processes to link projects objectives to corporate objectives, and providing organizations' capabilities and competencies to enable the successful implementation of projects, programmes and portfolios.

2.1 Paradigm for the governance of projects

Müller's proposed governance paradigm model has been used in different qualitative academic studies (Aubry et al., 2012; Müller et al., 2013); recently, the concept has been operationalized, with a quantitative measurement assessment tool aiming to test its validity and reliability (Müller & Lecoeuvre, 2014).

Müller's governance paradigm model is based on two vectors: (1) organization governance orientation, shareholder versus stakeholder orientation; (2) organization governance control focus, oriented to goal achievement (outcome) versus focus on compliance employees' behaviour (behaviour). The two vectors orientation results on four paradigms: (1) Conformist; (2) Flexible Economist; (3) Versatile artist; and (4) Agile pragmatist.

Organizations under the conformist paradigm, shareholder oriented with behaviour control focus, aim to maximize shareholders return on investment by efficiently managing their projects strictly following defined methodologies. These organizations tend to have a homogeneous set of projects (Müller, 2011).

The flexible economist paradigm, shareholder oriented with output control focus, maintains the focus on the shareholders' return on investment, but adopts a flexible application of project management processes, where the achievement of project outcome justifies the adoption of different methods and processes. These organizations tend to have a heterogeneous set of projects (Müller, 2011).

Organizations under the versatile artist paradigm, stakeholder oriented with output control focus, adapt project management methods with the aim to balance different stakeholders' requirements. These organizations tend to have a very homogeneous set of projects, based on high-technology or within an uncertain context (Müller, 2011).

Finally, the agile pragmatist paradigm, stakeholder oriented with behaviour control focus, is the one where projects focus on balancing different stakeholders' requirements and their changes by adopting process focused methods, incremental development processes, under the current agile approach.

Müller (2009) suggested that the project-based organization governance paradigm is the link between the development of organizations' project management capabilities and competencies and the governance of project manager model. The organization governance of projects framework may depend on the right combination of the two factors: (1) The project management capability and competencies in place, and (2) The governance paradigm, which is determined by the shareholder/stakeholder orientation, and the control focus.

Based on these four governance paradigms, the study aims to investigate if different paradigms may lead to differences on the perceived relevance of project management indicators. This leads to the first research question, which needs to be investigated within the organization context, to allow the establishment of a link between project management indicators and project-based governance paradigm.

Q1: How does the organization's paradigm for the governance of projects influence the perception of the relevance of project management indicators?

2.2 Institutions for governance of projects

This literature aims to define the project governance institutions as: board of directors, portfolio management, programme management, steering groups, sponsors, and project offices. The board of directors, with the main roles of decision about type, quantity and scope of projects and programmes, project management capabilities, governance of project institutions (including roles, authorities and accountability) and communication structures (Turner, 2009; Turner et al, 2010a, Müller 2009; Müller and Stawicki 2007). Portfolio of programmes and projects, whose main role is to balance project demands with organizational capability and capacity, provide a shared reporting system between projects and portfolios and consolidate portfolio information (Turner and Müller,2003, Too and Weaver, 2014). Programme is a different aggregation of projects, differing from portfolios because all individual projects inside the programme contribute to the same strategic objective and is mainly a temporary organization (Turner and Müller,2003; Blonquist and Müller, 2006; Müller, 2009). Project management offices, with the main role of supporting, controlling and sharing knowledge and experiences (Powell and Young, 2004; Gareis, 2004; Hobbs and Aubry, 2007; Aubry et al. 2007). Sponsors and steering groups representing the parent organization's perspective towards the project, in a governance role, and representing the project perspective towards the parent organization, in a support role (Turner and Zolin, 2012, Crawford et al., 2008).

The literature review on the governance in the project management field identified distinct governance institutions highlighting the requirement of project information for controlling or knowledge sharing purposes. However, it's not clear which specific requirements are more adequate to the distinct governance institutions. This leads to the second research question:

Q2: Why does the perception of the relevance of project management indicators differ within different institutions for governance of projects?

2.3 Project´s categorization

Several project categorization systems exist, examples are those presented by Turner (2009), Archibald (2013), Shenhard (2001) and Crawford et al. (2005). However most of the project categorization systems doesn't allow the required differentiation categories that might be related to perceived indicators relevance. The study follows the project categorization systems presented by Crawford et al. (2005) with fourteen major groups of attributes based on their analysis of usage frequency and importance for organizations, leading to the third research question.

Q3: Why do project types influence the perception of the relevance of project management indicators?

One of the project attributes is the contract type. From a GoP perspective, it's important to investigate why projects, under different contract types, have to manage distinct types of information, probably at different project levels.

Q4: Why do project contract types influence the perception of the relevance of project management indicators?

The literature review indicates that a main component of the governance of projects is disclosure and reporting, focused on monitoring projects, programmes and portfolios progress, requiring performance information. The leading project indicators should be focused on measuring success criteria, success factors and project symptoms (Turner, 2009), linked to the different organization's governance of projects paradigms, different governance of projects institutions and different IT project types.

3. Methodological approach

The present study takes a realism perspective. This decision was driven by the need to search for regularities and casual relationships (governance paradigm, GoP institutions, contract types and project types) on project management indicators' perceived relevance, which are mostly objective and independent from the observer.

An inductive approach was used for knowledge development, aiming to extract strong evidences from data gathering and analysis (Baker, 2001). The inductive approach leads to a qualitative research, focuses on specific individuals or situations, aiming to understand processes and mechanisms, in a cause-effect realistic view (Maxwell, 2005).

In the present study, the research questions start with "how" and "why". This type of questions cannot be properly answered by a positivism approach; it can only be approached through a phenomenological approach (Easterby-Smith et al. 2012). "How" and "Why" questions are operational links to be traced over time rather than frequencies (Yin, 2009) which, together with the chosen methodology, call for an explanatory study, using a case study approach (Yin, 2009).

Yin (2009) argues there are three conditions to choose case studies: (1) "how" and "why" research questions; (2) investigator has little control over events; (3) research is focused on contemporary phenomenon within the life context. The present research is clearly aligned with the first condition and the author believes that it's only possible to investigate project indicators perceived relevance within a project-based organization, offering a context-dependent knowledge.

The research questions formulation, mainly the first, which aims to find regularities and casual relationships among distinct organization's governance paradigms, call for a multi-case study allowing to investigate contrasting cases, synthesize findings and identify patterns (Yin, 2009).

The research was conducted using multi-case studies, a qualitative research approach, where the intent was to capture the phenomenon, perceived relevance of project management

indicators, on an organizational contextual approach. The research approach, using theoretical replication logic, allowed the analysis of commonalities and differences across different organizations (Yin, 2009).

The research was conducted in six large IT organizations where sixty structured interviews to project managers and GoP institutions representatives were conducted.

Data collection was done based on a case study protocol including: (1) data collection procedures; (2) case study questions, to identify the GoP context; (3) use of designed assessment model, to identify the GoP paradigm; (4) pre-defined project management indicators, listed to collect interviewees perceived relevance; and (5) a case study report template.

4. Significant results

Research results don't support the conclusion that the organization's paradigm for the governance of projects influences the perception of the relevance of project management indicators. It seems that factors influencing that perception are more contextual factors, such as the regulatory power, the nature of projects, the way individuals' objectives are appraised, or even the way organizations manage the projects' finance. However, the assessment of the organization's paradigm for the governance of projects led to a better understanding of the GoP in each single-case and brought to light the contradictions existing in the organizations' governance structures. Those observed contradictions were detected on different views of shareholders, versus stakeholders, or on the control focus between project managers and GoP roles, inside each single-case. A particular case, but significant in the IT area, is one organization whose culture fosters the output focus control but, since they are CMMI certified, the need to be in conformity with such processes pushed them to behavioural control focus.

Research results suggest that the perceptions of the relevance of project management indicators differ within different institutions for governance of projects and between internal suppliers (supplying projects for the internal organization or group) and external suppliers (supplying projects for multiple external customers). Differences were detected on portfolios and projects office functions, performed by different organization areas. This result suggests the selection of project management indicators based on GoP functions, instead of a selection by institution.

The main difference found on portfolio institutions is that persons related to portfolios' functions, in external IT suppliers, require more project indicators than those in internal suppliers, aiming to anticipate problems and support decision making on preventive or corrective actions, and minimizing possible impact on the organization's financial results or reputation. When portfolio functions are split in central and distributed functions, centralized functions rely on aggregated information provided by decentralized functions, and perceived business sustainability indicators, with higher relevance than the decentralized functions.

Portfolio balance functions may be decentralized and focused on different types of resources, people or IT platforms (information systems architectures, system products and networks), supported by Turner (2009).

Project office structures and functions differ between case studies. Functions identified were: (1) providing visibility and control; (2) supporting project management practices; (3) supporting project management competencies; and (4) partnering, aligned with (Aubry et al., 2012). The former, in external suppliers, is split into finance controller and other projects indicators. When focused in each particular function, perceived relevance of indicators doesn't show significant differences.

Governance of projects functions identified in the case studies are represented in Figure 2.

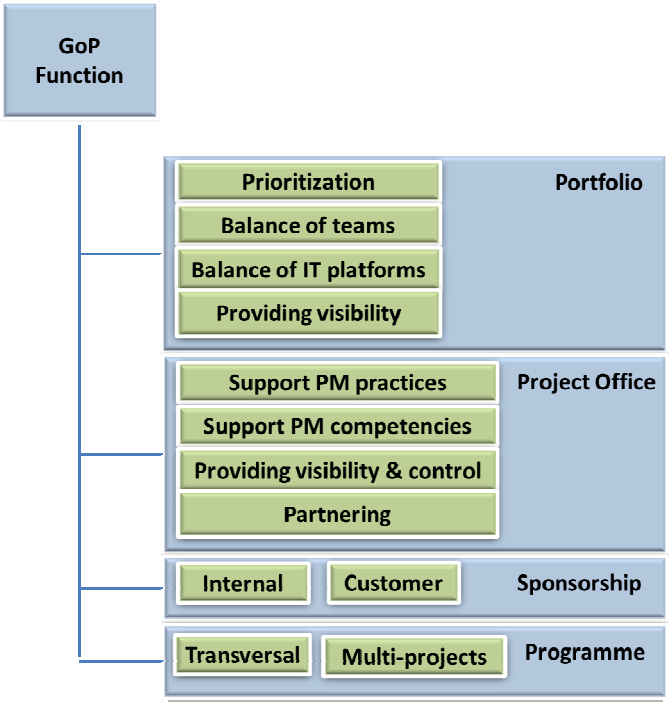

Figure 2 - List of governance of projects functions identified in the case studies.

Analysed portfolio functions are linked to organizational structures, in a hierarchical structure. Project offices go from a central structure to a matrix approach, involving several organizational areas.

Results suggest choosing project management indicators by GoP functions within institutions for governance of projects.

The influence of contract types and project types on the perception of the relevance of project management indicators was analysed separately. However, since the contract type can be considered as a project attribute (Crawford et al., 2005), the conclusions are aggregated for conclusions purpose.

Project typology is better understood and feasible to analyse if based on a categorization system, instead of identifying project types based on classification, defining mutual exclusive classes. The use of projects' characteristics allowed the identification of communalities and diversities influencing indicators perceived relevance.

The project characteristics, found in case studies, that may influence project management indicators perceived relevance are: (1) contract type; (2) project nature; (3) scope; (3) risk level; (4) strategic importance; and (5) agile approach.

Contract types identified were: (1) internal service level agreements, for internal suppliers; and (2) fixed price or schedule rates contract, for external suppliers.

In the case of internal suppliers, service level agreements and governance structures were identified to minimize the agency theory adverse selection and moral hazard problems, realigning business owners (principal) and IT project managers (agents) through SLA contracts and decision boards composed of business and IT area representatives. For those projects, the GoP focus is on schedule and quality of deliverables.

In the case of external suppliers, the majority of the analysed projects were executed under fixed price contracts, facing the TCE bounded rationality problem, since project scope can only to be closed after project initiation. This situation explains the scope changes and costs indicators mandatory relevance perception found by all external suppliers' interviewees. Distinct perception relevance was found in projects under schedule rates contracts, were the risk of scope changes and costs is assumed by the client. Combining project performance indicators to build GoP KPIs, including projects with different contract characteristics, may result in information not adequate for decision-making processes. This situation was detected in case studies where projects KPIs don't take into consideration the project characteristics, leading to incorrect information (example is to use of KPI for cost variance, less than 2%, where a project under schedule rates contract may present a larger cost variance, able to impact the global KPI target, but really resulting from incremental business and, as such, not requiring any preventive or corrective actions on the portfolio).

For projects aiming to develop new information systems or package implementations, with medium or high risk associated, GoP functions require schedule, costs and effort variance, on work packages level, since visibility and control on project level is not enough; information collected at WBS lower levels make the problems visible sooner and support timely preventive actions or decisions.

For large and strategic projects, quality indicators are perceived with more relevance, since for this project categorization quality results are the major success criteria.

Agile approaches should be considered as a project characteristic, since they change the focus on scope, time and costs. From a GoP perspective, the main focus should be on quality and velocity (time to develop backlog requirements). It is a completely different approach, requiring future research. However, only indicators to evaluate project management performance success should be reviewed, since the agile approach doesn't seem to influence

the other categories of indicators, to evaluate project results success or to evaluate consistent project success.

The study proposes a complete governance of projects information model, using object modelling. The model presented in figure 3 is based on:

- A project based organization has projects (temporary organizations), each of them categorized by a set of attributes, which map with indicators. Those indicators define the information to be provided by the project to the governance functions.
- The project based organization implements governance of projects functions, supervising a set of projects, and requiring periodic reports from those projects. Periodic reports are views over indicators provided by projects, based on its categorization.

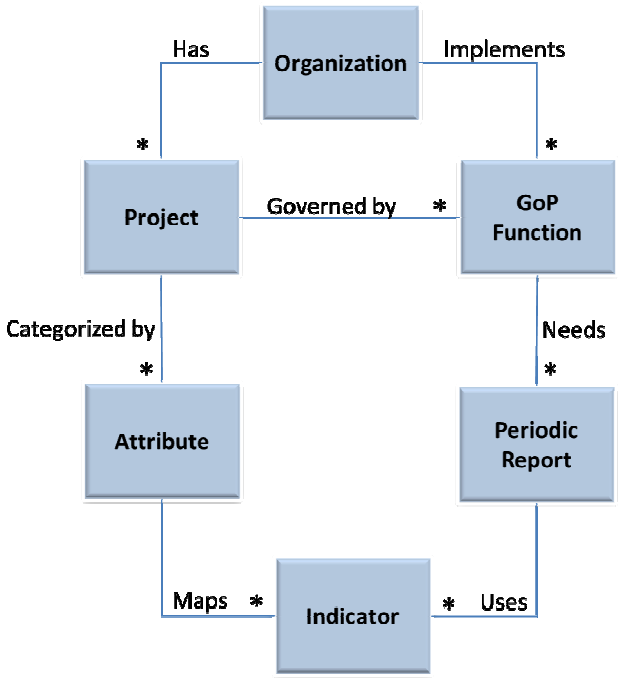

Figure 3 - Model of governance of projects information

(represents relations of multiple instances)*

The initially proposed list of project indicators was subdivided into: (1) project performance indicators; (2) business sustainability indicators; (3) satisfaction indicators; and (4) practice indicators. This group structure was analysed in the case studies. However, based on the data information gathered during the case studies, it's more adequate to regroup those indicators, in three groups, based on the indicator purpose, according to Cooke-Davies classification (2002, 2004):

- Indicators aiming to evaluate project management performance success, comprising scope, schedule, cost and quality measurements;

- Indicators aiming to evaluate consistent project success, comprising business sustainability, revenue realization, resources optimization and project management practices;
- Indicators aiming to evaluate project results success, related to stakeholders satisfaction.

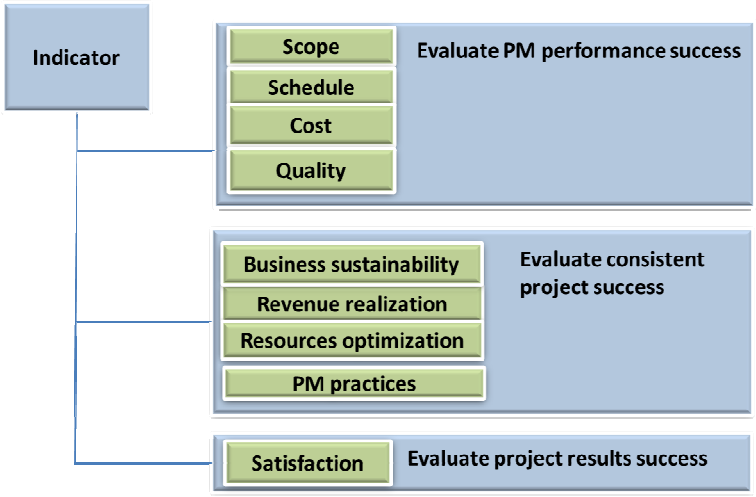

Figure 4 - Group of project management indicators

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A project is no island

Hans Knoepfel

Abstract

For many years projects were considered as a temporary endeavour undertaken to create a unique product, service or result. It has a defined beginning and end time and therefore defined scope and resources. It shall deliver the on-time and on-budget results.

The connection between the project organisation and a parent organisation can be shown as a matrix relationship. It has been investigated in which way the project success depends on the weight of the project and the parent organisation's influence.

In the past years an increasing interaction of permanent organisations with the projects can be observed, in particular concerning by connecting a project with a strategy, processes, resources and the benefit realisation of permanent organisations.

How should the interface between the project organisation and the permanent organisations be designed for a maximum project management success?

Key words

Project governance, project scope, project context, portfolio management, organisational competence

1. Basic definitions

For many years projects were basically considered as "a temporary endeavour undertaken to create a unique product, service or result" and "it has a defined beginning and end time and therefore defined scope and resources" and shall "deliver the on-time, on-budget results" (PMI, 2015). "The primary interest has been in the structures and dynamics of individual projects" (Engwall, 2003, page 790). Later it was added that the project should deliver "learning and integration that organisations need" (PMI, 2015).

Another basic definition of a project is "a time and cost constrained operation to realise a set of defined deliverables (the scope to fulfil the project's objectives) up to quality standards and requirements" (IPMA, 2006, page 13).

A project can be a part of a programme and a part of a portfolio. Parts of (complex) projects can be managed as sub-projects (IPMA, 2006). The whole professional discipline is called Project, Programme and Portfolio Management (PP&PM).

The PP&PM is necessary for managing changes and transformations. Like any other discipline, PP&PM itself is a mix of existing, e.g. classical, and new, e.g. innovative, components. Its evolution is done with the necessary openness and a sufficient respect for the reliability, an ideal combination of dynamics and proof of worth.

Engwall (2003) published his paper “No project is an island: Linking projects to history and context” more than 10 years ago. It seems to be necessary to think about the interaction between the project and its context.

There is a boundary between the project and the project’s context and there is interaction between the project and its context. “The boundary is where an area ends and another area begins; where to things become different” or “something that indicates or fixes a limit or extent”, according to Webster (2015).

With the project definition are defined

- the project objectives,
- the project boundary,
- the project context and
- the interactions between the project and its context

The project objectives can be expressed with the dimensions “deliverables, time schedule, investment cost, risks and opportunities, impact, customer satisfaction” (Knoepfel, Xue, 2014, Table 1), for example.

The project boundary is the limitation of the project organisation’s responsibility. The project organisation is “a group of people and associated infrastructure with an arrangement of, authority, relationships and responsibilities aligned to the business or function’s processes”. It covers “appropriate roles, organisational structures, responsibilities and capabilities for the project” (IPMA, 2006).

The context consists of the items outside the project which influence the project or/and are influenced by the project.

The interaction is the way how these influences take place.

2. Interaction

For the interaction of the project with the context, it is suggested that a main relationship is established between a representative of the project interest and the representative of a context interest. The general case of this relationship is a co-operation between these two parties, using an agreement concerning the common interest of project and (part of the) context.

The actions from the project side are coordinated by the representative of the project. The actions from the (part of the) context are coordinated by the representative of the (part of the) context.

The interaction will now be designed for three typical kinds of projects

- Internal projects
- Customer projects
- Sub-projects

2.1 Internal project

In the *Figure 1* are shown

- The continuous production of the parent organisation with a Department of Marketing and Design, for Manufacturing/Provision (goods or services), Assembly and Distribution
- The production with a Project, on the bottom line (e.g. delivering a gas turbine in factory or a continuous education program at a university)
- The production of the own demand of the parent organisation (e.g. a new version of a product or of an internal quality assurance system)

The following abbreviations are used:

CPO: Chief Project Officer
(responsible for the PP&PM in the Parent Organisation)

PMO: Project Management

PfM: Portfolio Management

PM: Project Management

RoO: Representative of the Project Owner
(can be the deputy of the Project Owner's Steering Committee)

RoU: Representative of the Users
(of the system created or changed by the project)

RoOM: Representative of the Operation and Maintenance
(of the system created or changed by the project)

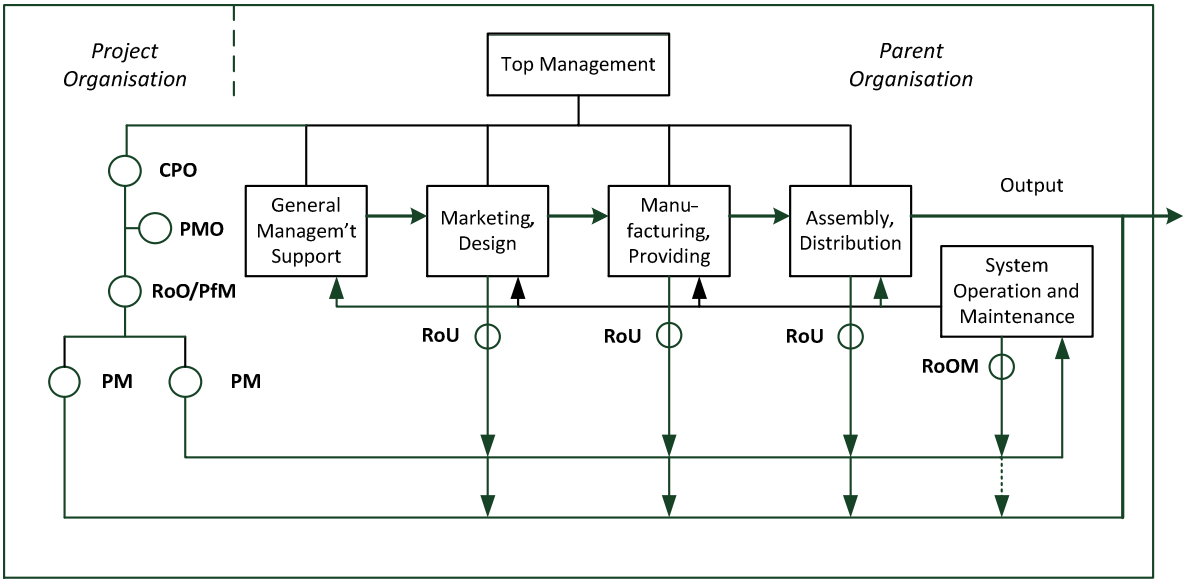

Figure 1: Internal project of a parent organisation

Two kinds of relations of the PM of the Parent Organisation to the context are established

- PM to RoO and indirectly to the CPO with the PMO
- PM to the users and the operation and maintenance.

Both kinds are relations with the internal context of the parent organisation.

The roles outside the key production process are

- The Top Management
- The General Management Support
  (Human Resources, Finance, Legal, Administration)

2.2 Customer project

In *Figure 2* are shown

- The role of the Project Owner who is also responsible for the Project Portfolio (e.g. the portfolio of the ICT and Organisational Development projects of the Customer Parent Organisation)
- The Acquisition, Design, Realisation/Implementation, Acceptance/Handover, Close-out of the (Designer and) Contractor for the mandate received from the Customer (e.g. the delivery of a number of airplanes from an airline, or the renovation of a hotel from a hotel chain), which he realises with two projects

The following additional abbreviations are used:

- RoC: Representative of the (Designer and) Contractor
- RoD: Representative of the Design Department
- RoI: Representative of the Implementation Department
- RoD: Representative for the Acceptance and Handover

Three kinds of relations of the PM of the contractor to the context are established

- PM to RoC and indirectly to the internal CPO with the PMO
- PM to the internal Departments and the Infrastructure of the Contractor
- PM indirectly via the RoC to the external Customer

The RoC manages a project portfolio of the contractor (e.g. a region or a product line).

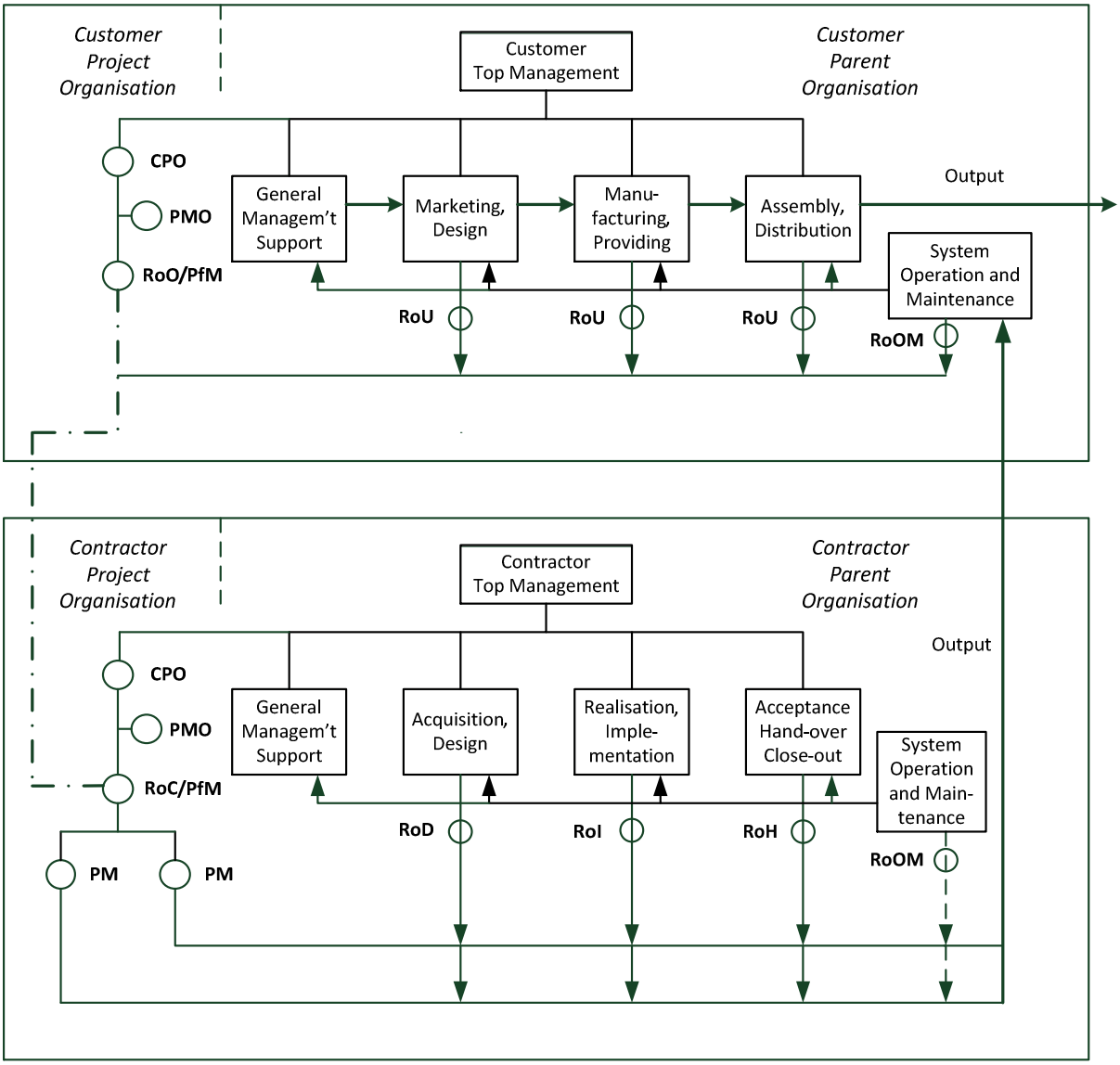

Figure 2: Customer project with a mandate for a Contractor and Contractor's delivery project

2.3 Sub-contractor project

In *Figure 3* are shown

- The role of the (Designer and) Contractor who mandates the Realisation / Implementation to the sub-contractor
  (e.g. the delivery of the process and document management system)
- The Acquisition, Preparation, Realisation / Implementation, Acceptance / Handover and Close-out for the mandate received from the Contractor

The following additional abbreviation is used:

- RoSC: Representative of the Sub-contractor

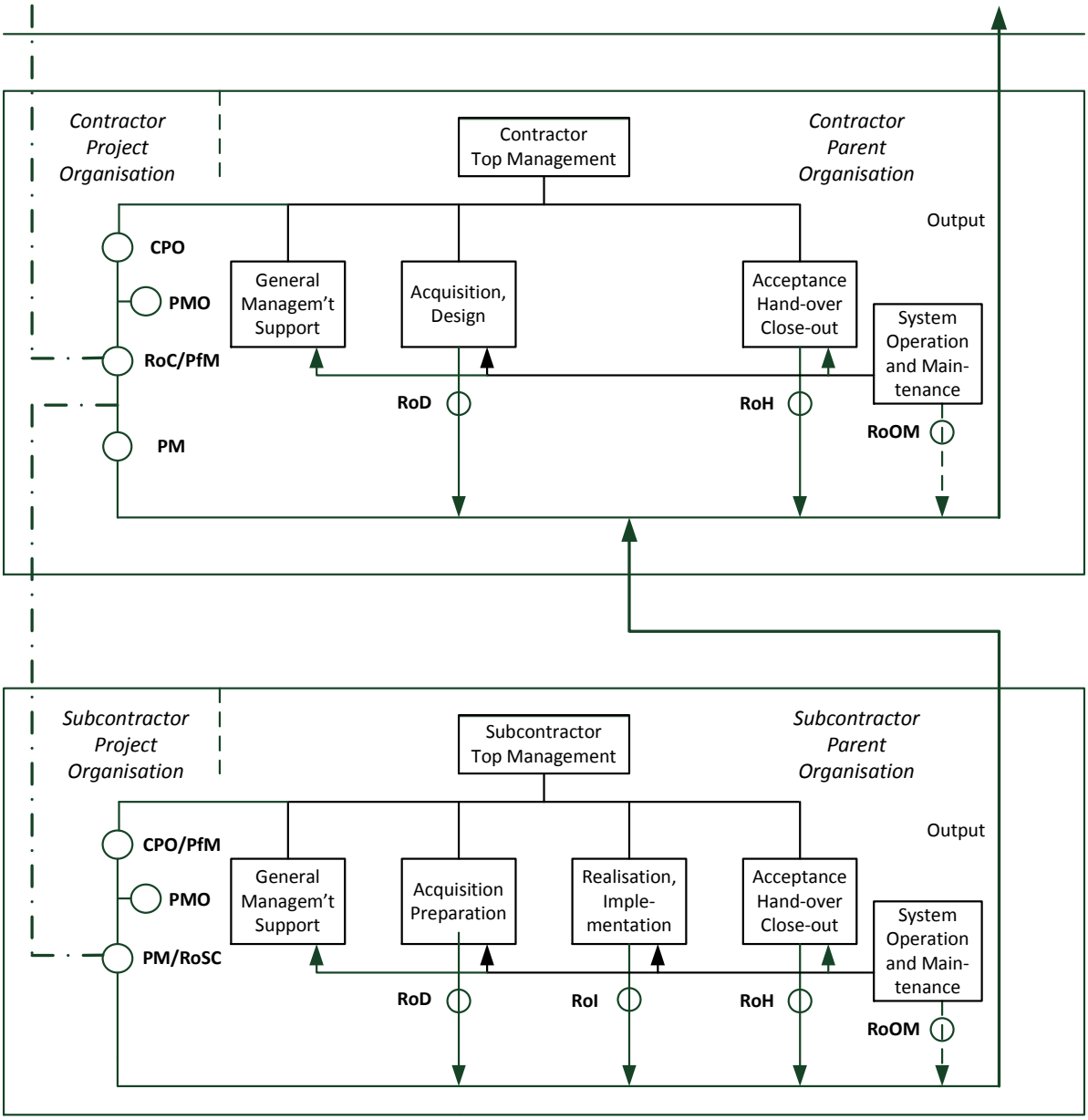

Figure 3: Contractor's project with a mandate to a Sub-contractor and Sub-contractor's delivery project

Three kinds of relations of the PM of the sub-contractor to the context are established

- PM to the internal CPO/PfM with the PMO
- PM to the internal Departments and the Infrastructure of the Sub-contractor
- PM/RoSC to the RoC of the external Contractor

The CPO manages a project portfolio of the sub-contractor him/herself. The Project Manager is the Representative of the sub-contractor her/himself.

3. Interface

Due to a quite long history of more than 50 years two worlds seem to be likely to survive

- Parent Organisation
- Project Organisation

The Parent Organisation World includes mainly

a. Its on-going corporate management

b. Its vision, mission, strategy and projects, the management of culture and quality, and the management of the risks and opportunities of the changes, for the sustainable success of the organisation

c. Its own methods, processes and tools for the continuing operations and development and the periodical planning, monitoring and controlling

d. Its own considerable resources (people, knowledge, finance, infrastructure, materials)

The Project Organisation World includes mainly

a. Its time-limited project management

b. Its own stakeholders, project objectives and project-related management of risks, opportunities, culture and quality for achieving the project success

c. Its own methods, processes and tools for moving the project forward in phases, and the corresponding planning, monitoring and controlling

d. Its requirements for the necessary resources (people, knowledge, finance, infrastructure, materials) at a certain time and situation

The two worlds should be linked by the Organisational Competence, e.g. corresponding to IPMA (2013):

- The Governance (group G) mainly dealing with the PP&PM strategy, management development, leadership and performance in the organisation
- The PP&PM Management (group M) which develops, supervises, controls the project, programme and portfolio management
- The Alignment (group A) which integrates the PP&PM processes, structures and cultures in the organisation
- The People's Competences (group P) which deals with the expectations, objectives, status, engagement and development of the individual people working for the PP&PM
- The PP&PM Resources (group R) which deals with the expectations, objectives, status, procurement and development of the other resources (knowledge, finance, infrastructure, material) necessary for the PP&Ps

The organisational competence defines what the PP&PM can expect from the Parent Organisation, and what the Parent Organisation can expect from the PP&P managers.

The key roles for managing the interface were used in Figures 1 to 3 already:

- Top Management:
  Manage the strategy, define and communicate the governance, define and supervise the conceptual expectations, objectives and standards, and manage the PP&PM performance
- Responsible for the PP&PM in the organisation (CPO):
  Initiate, supervise, control, improve and further develop the PP&PM, supported by the senior PP&P managers
- PMO:
  Develop standards, processes and tools and support the PP&PMs with information, training and coaching
- PP&P Managers and Associates:
  Implements PP&PM and provide proposals and feedback

It is suggested to further develop the roles of the representatives of the project owners and the users, the deputies from operations and maintenance, the steering committees and the representatives of the agencies which are providing the permits and acceptance.

4. Conclusion for the design of the interface

Separate worlds for the project organisation and the parent organisation are normally not feasible. “From being a practitioner-driven normative theory, there is a growing scholarly interest in projects, and the role these temporary structures play in organisations” (Engwall, 2003, page 789).

The interaction between the project and the internal and external context is governed by expectations (who expects what of whom?) and their realisation (who delivers what to whom?). “Instead of lonely and closed systems, projects have to be conceptualized as contextually-embedded open systems” (Engwall, 2003, page 790).

A project manager usually has more than one boss. Matrix relationships are logical.

The most relevant variable for the relation between the project and its context is the degree of freedom of the project management for making decisions on the project.

The interaction between the parent organisation and the projects should be a cooperation and a win-win situation.

The biggest risk of a project is often that its business case does not work; the biggest opportunity of a project is that its business case does work.

The business case is the key element of the main stakeholder of the project, the investor and owner of the project.

What happens if the strategy is weaker or stronger than the project? May be the strategy is changed, may be the project wins, may be the project manager is replaced.

Agile methods can empower the project teams; can this team respond to the context related questions about the alignment to a strategy and the sustainability of the project?

Who is the CPO? In a small of medium size enterprise or a department, it may be the CEO. May be it's a portfolio manager or the "PP&PM-professor" in the organisation.

Should the PMO be integrated in the General Management Support?

The role of the CPO and deputy roles should be further investigated and developed.

Would it be worth doing a similar research as (Engwall, 2003, two case studies) with current project-internal and contextual conditions?

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The ambiguity of PM words

An obstacle to efficient education

Gilles Turré

Key words Project, Program, Portfolio, Ambiguity, Words, Definitions, Education

INTRODUCTION

Students and novice practitioners in project management are faced with ambiguous words from their first courses. In fact, many of these words refer to several different concepts, variably from one book to another, from one teacher to another.

This paper deals with the words ***project, program and portfolio***.
This is the ambiguity of those words that has the most serious consequences.

We shall consider seven sources of ambiguities:

- 1 Project, operation, business
- 2 Outputs and outcomes
- 3 Owner's business vs. contractor business
- 4 Projects vs. program nature
- 5 Program cycle life and managers' accountability
  (Cf. Exp. Sem. 2014 Siedlmayer)
- 6 Program management in the projects machine
  (Cf. Exp. Sem. 2014 Turré)
- 7 Projects vs. product portfolio and management

The authorized definitions

What and what for

PROJECT

AACEI

PROJECT – A temporary endeavor with a specific objective to be met within the prescribed time and monetary limitations and which has been assigned for definition or execution

APM

PROJECT - A unique, transient endeavour undertaken to achieve planned objectives

IPMA

PROJECT - A unique, temporary, multi-disciplinary and organised endeavour to realise agreed deliverables within predefined requirements and constraints. Achievement of the project objective requires these deliverables to conform to specific requirements, including multiple constraints such as time, cost, resources and quality

PMI

PROJECT - A temporary endeavour undertaken to create a unique product, service or result.

PROGRAM

AACEI

A set of projects with a common strategic goal.

APM

PROGRAM - A group of related projects and change management activities that together achieve beneficial change for an organisation

IPMA

PROGRAM - A temporary organisation of interrelated program components managed in a coordinated way to enable the implementation of change and the realisation of benefits.

PMI

PROGRAM - A group of related projects, subprojects and program activities managed in a coordinated way to obtain benefits not available from managing them individually.

PORTFOLIO

AACEI

PORTFOLIO – An array of assets – projects, programs, or other valuable and often revenue-producing items – that are grouped for management convenience or strategic purpose. When strategically combined, the portfolio assets serve to create synergies among and otherwise complement one-another.

APM

PORTFOLIO - A grouping of an organisation's projects and programmes. Portfolios can be managed at an organisational of functional level.

IPMA

PORTFOLIO - A set of project and programs, which are not necessary related, brought together to provide optimum use of the organisation's resources and to achieve the organisation s strategic goals while minimising portfolio risk.

PMI

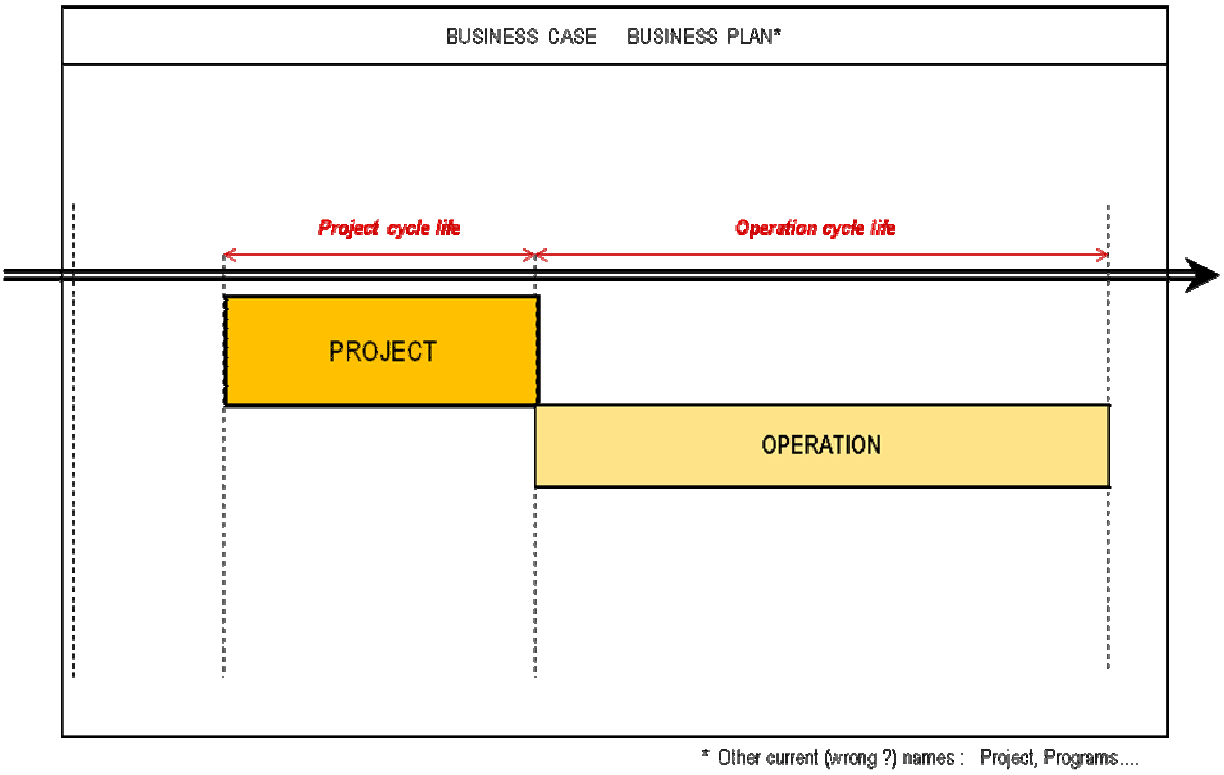
PORTFOLIO - Projects, programs, sub portfolios, and operations managed as a group to achieve strategic objectives

A project ? What for ?

Authorized definitions clearly state *what* a project is : ***a temporary endeavor.***
What for is not clearly stated.
Achieve objectives ? Realize a result ? Deliver a deliverable ?

This has consequences…

1 Ambiguity 1 Project, operation, business



Proposition 1 Define what is *not* a project

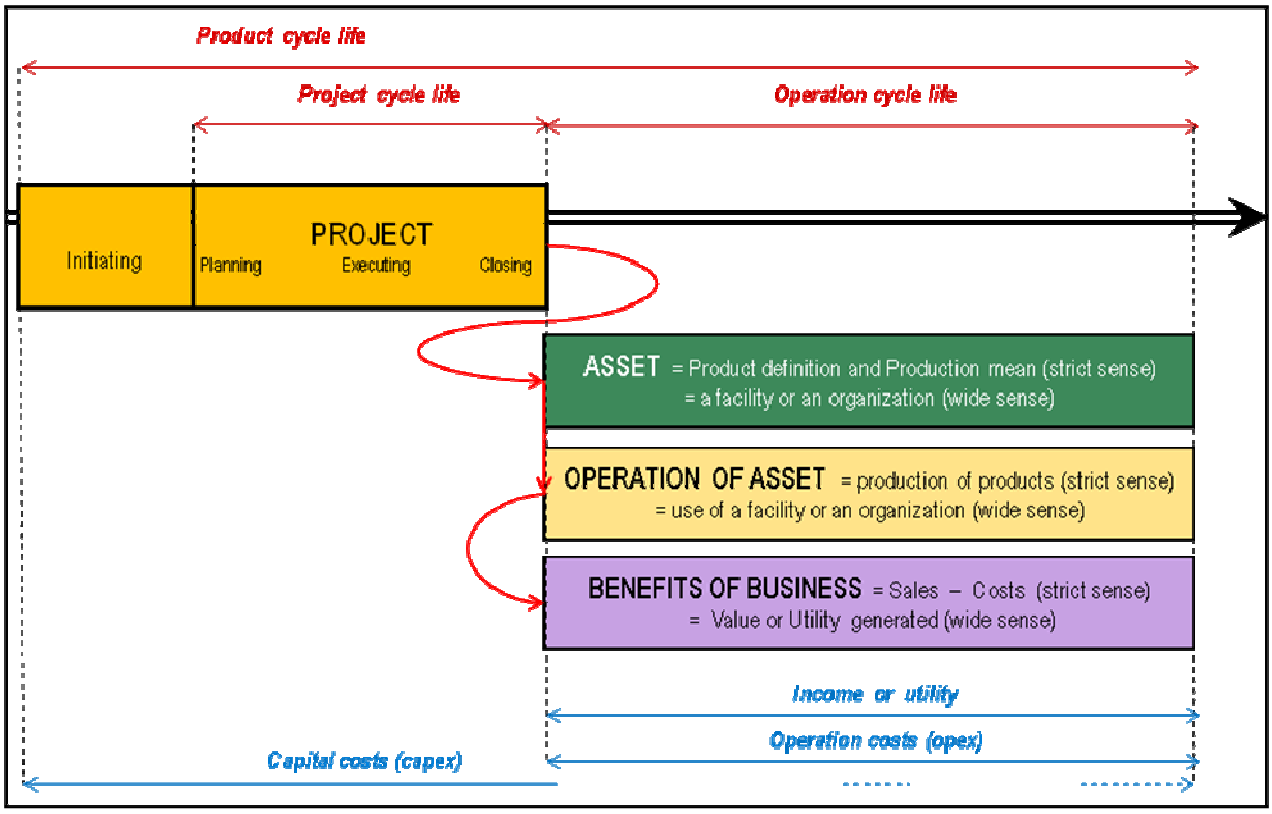
A project does *not* include "business as usual"

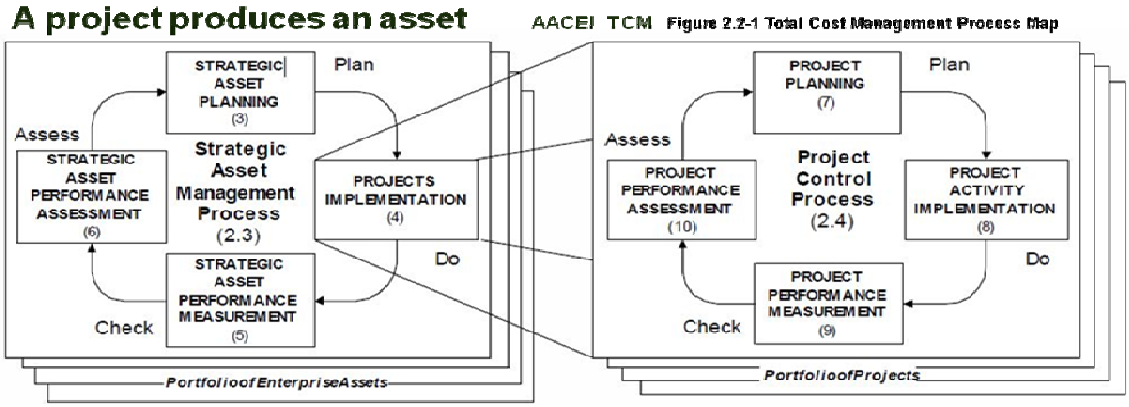
Operation (normally…) always follows the project and the both form the business.

In a common owner's point of view, there is no operation, no opex, no sales, no income during the project. The project is the first part of the owner's business plan.

Many project management courses and books still present an "operation phase" in the project cycle life. This is obviously an ambiguity, source of confusion between project and business.

2 Ambiguity 2 Outputs, outcomes





Proposition 2 Define what a project does *not*

A project produces *no* benefit A project creates no value, no benefit, only an asset which has a cost. That cost is only a "book value", subject to impairments, according to circumstances. Profitability, benefits, income are figures related only to the whole business.

3 Ambiguity 3 Owner's business and contractor's business

A contractor makes benefits during the project. Project is understood here as the owner's project. But the contractor also names "project" and not "operation" his engineering activity during this period, despite the fact that:

- He has incomes and makes benefits.
- He produces no asset for his own use and has no operation period after his "project".

Project management has here a sense of "engineering management"

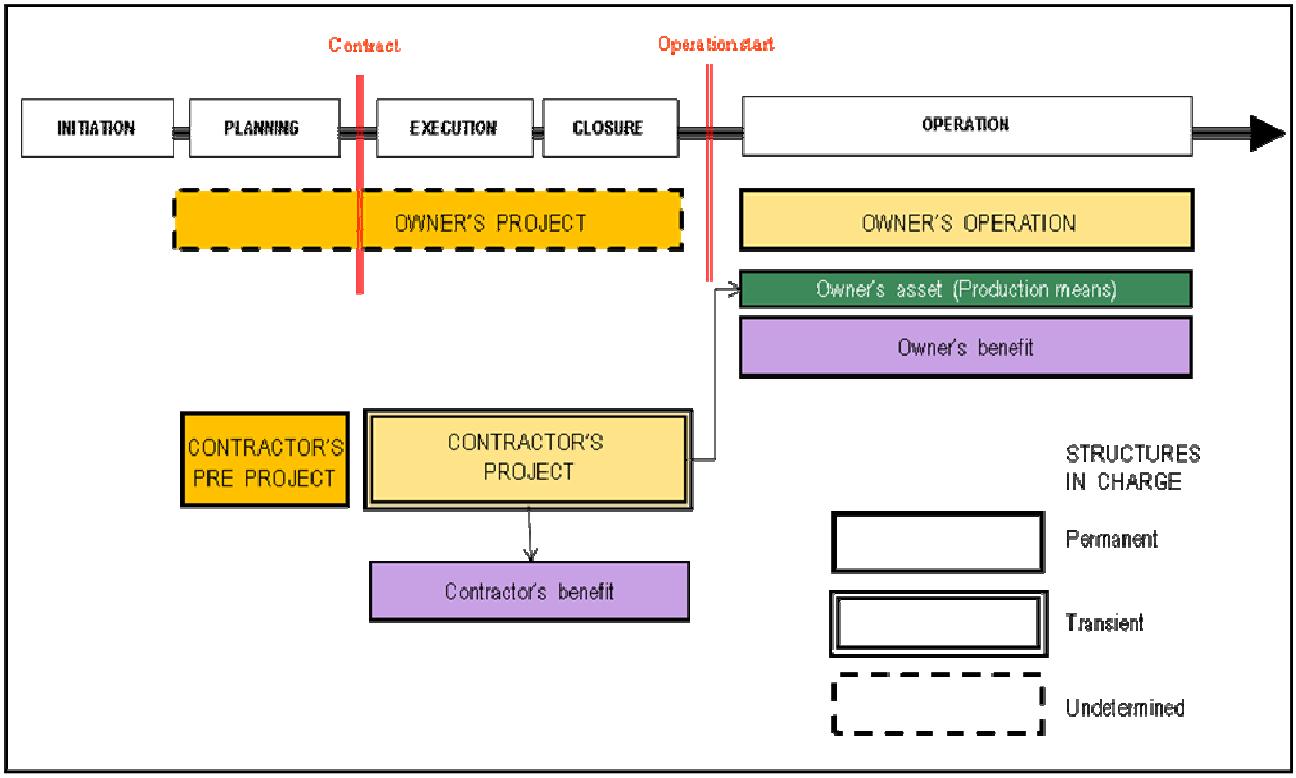
The word project has a different meaning for the owner and the contractor

Project management has been made by permanent structures. The traditional organization of engineering was a department divided as many divisions as technologic specialties. Each of them was a permanent structure. Same organization at a higher degree in functions: engineering, production, purchases, commercial. Each of them worked simultaneously on several projects

The traditional organization is no more considered as "project management". The authorized definitions of "project" show that. The authorized definitions of "project" show that. Project management, understood as "the modern project management" must involve a transient structure

Being temporary and having objectives at completion determine a mode of working of the transient structures which deeply differs from the permanent structures' mode, having yearly objectives for their "business as usual". This requires a specific mode of management.

"Project management" has now a sense of "transient structure management"



Proposition 3 Carry on the research

Try to find comprehensive definitions avoiding the ambiguities between:

The owner's point of view:

Project management is the management of the investment period of a business

The contractor's point of view:

Project management is the management of engineering

The manager's point of view:

Project management is the management of a transient structure

4 Ambiguity 4 Project nature vs. Program nature

Various local definitions

Program as a local term in many companies or organizations. Great variability. Usually an emphasis of "project" to distinguish program managers from project managers on a hierarchic scale.

Same nature (AACEI)

Program as a grouping of projects.

Ambiguity : Projects are also made of parts, subprojects, work packages, which are often considered as small projects. Recursion.

What need of two words for the same concept ?

Project + other activities + Benefits (PMI)

Program as a grouping of projects managed to obtain benefits.

Difference of nature : projects deliver output, programs deliver benefits (outcome)

Projects + Change + Benefits (APM)

Program as a management of the grouping of projects, implementation of the change and the benefits

Difference of nature : projects deliver output, programs deliver benefits (outcome) through a change

Program components + Change + Benefits (IPMA)

As over, wider definition of the content. Very close.

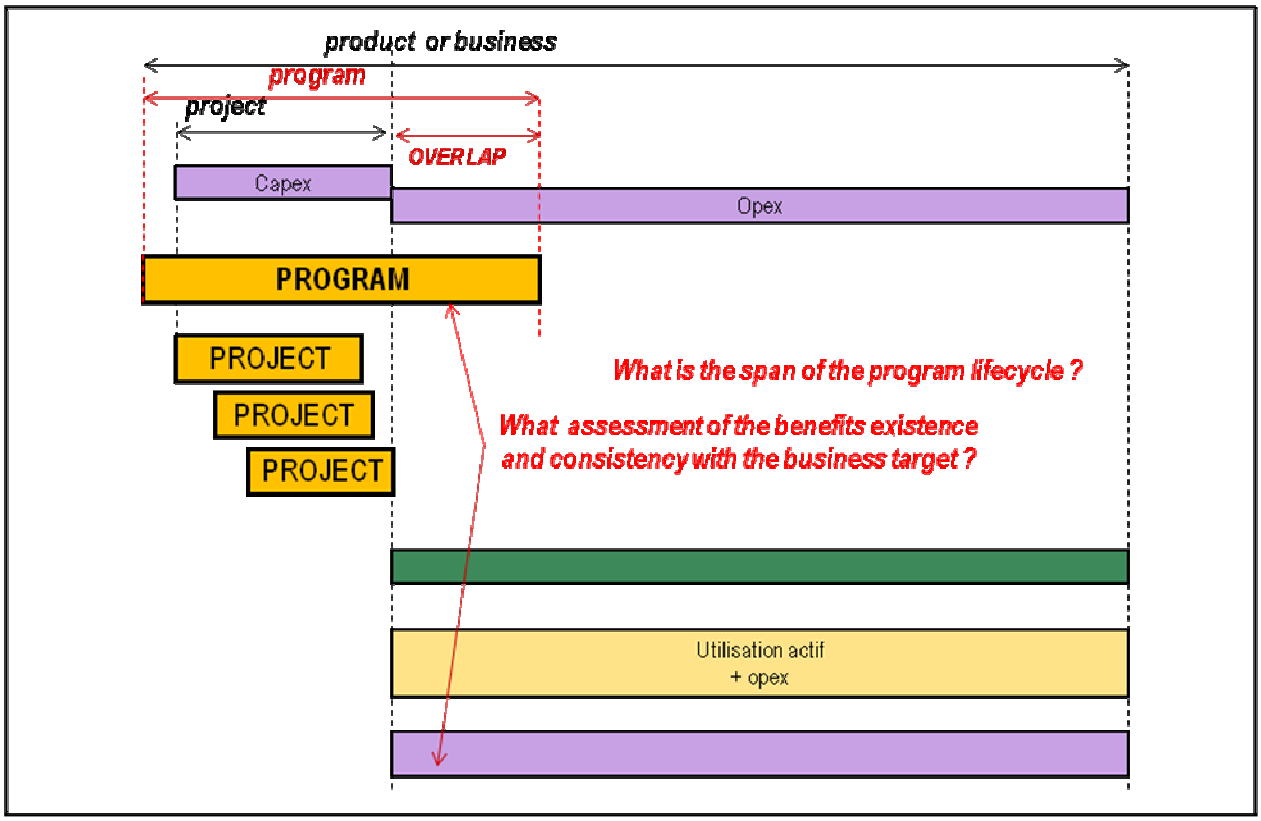
A complicated situation for teaching. A convergence is expected.

Proposition 4 Put the emphasis on the benefits

In the definition of programs, put the emphasis on the concept of benefits.

The concepts of grouping and of change are only conditions to get these benefits.

5 Ambiguity 5 Program cycle life and managers' accountability



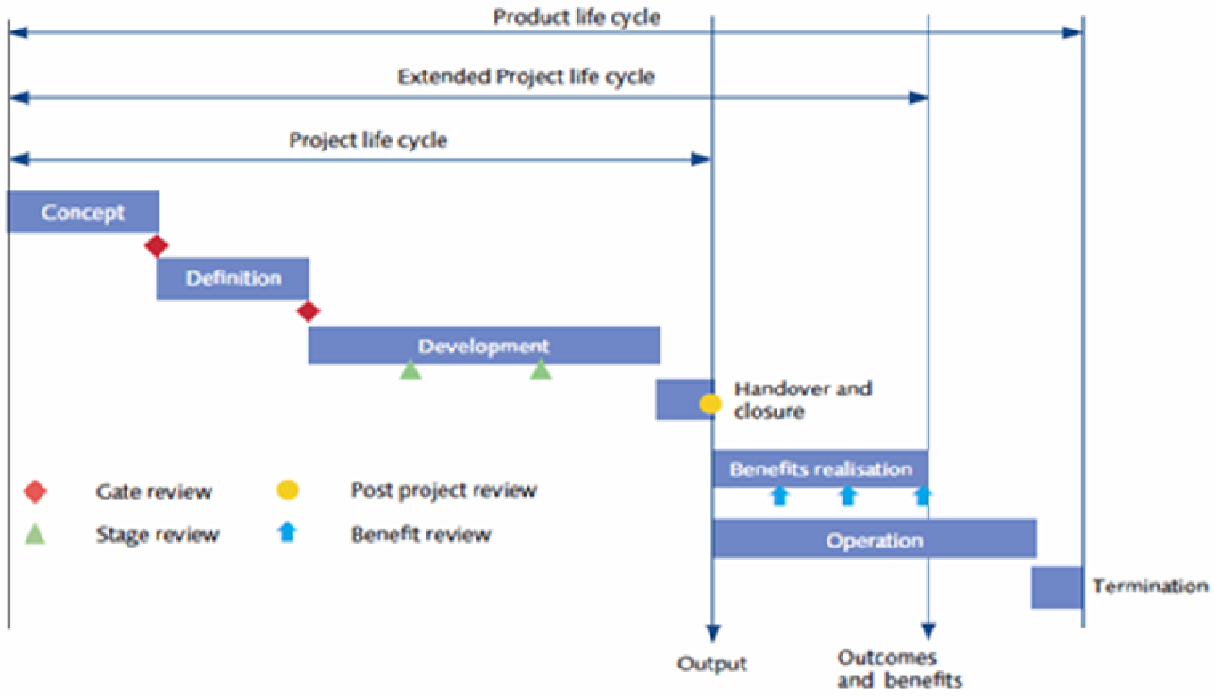


Figure 1.4: Linear project life cycle

APM Body of knowledge 6th edition

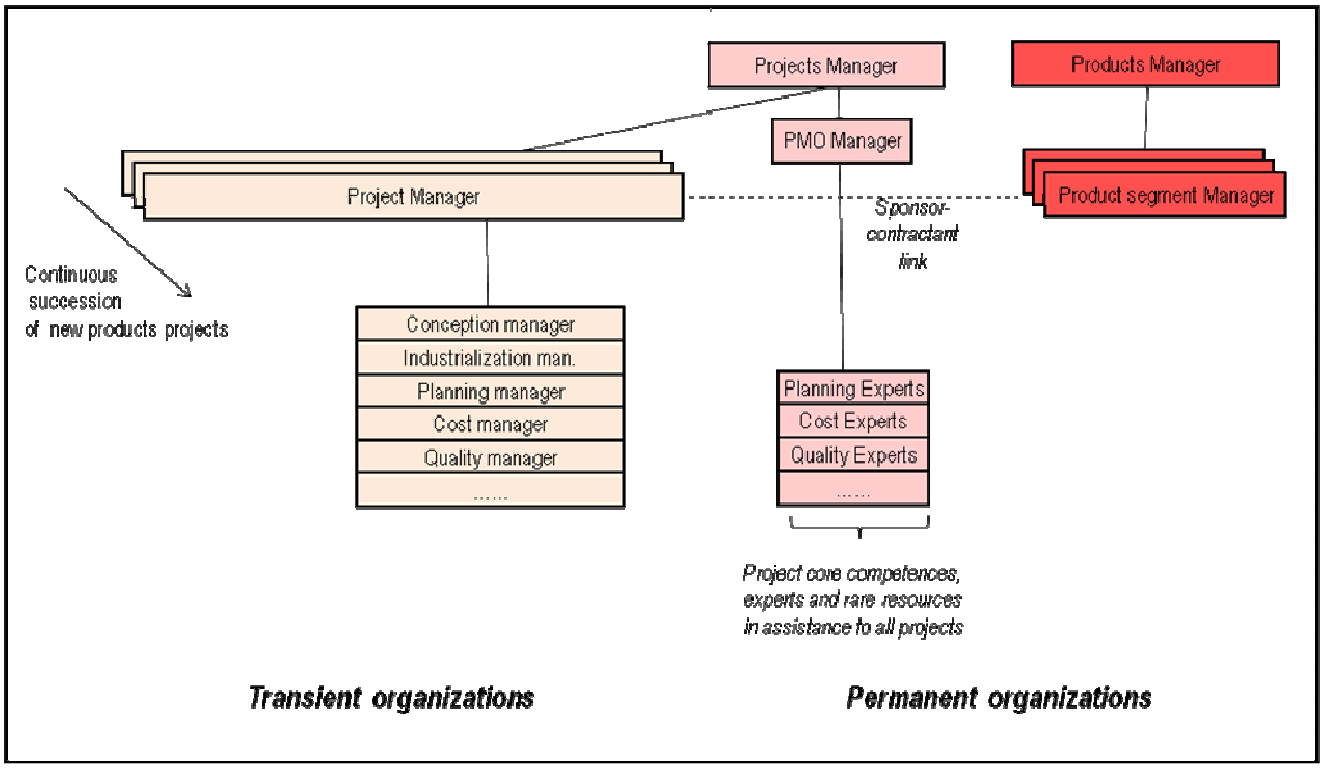
Proposition 5 Define the program cycle life

The program cycle life should be more clearly defined

The presence of the program manager at the beginning of benefits production seems necessary. In fact, his target is fulfilled only if that beginning is consistent with the total business benefits expectation.

The program lifecycle is wider than the total of the projects cycles. And overlap on operation cycle must exist.

6 Ambiguity 6 Program management in project machine



Proposition 6 A choice is to be made

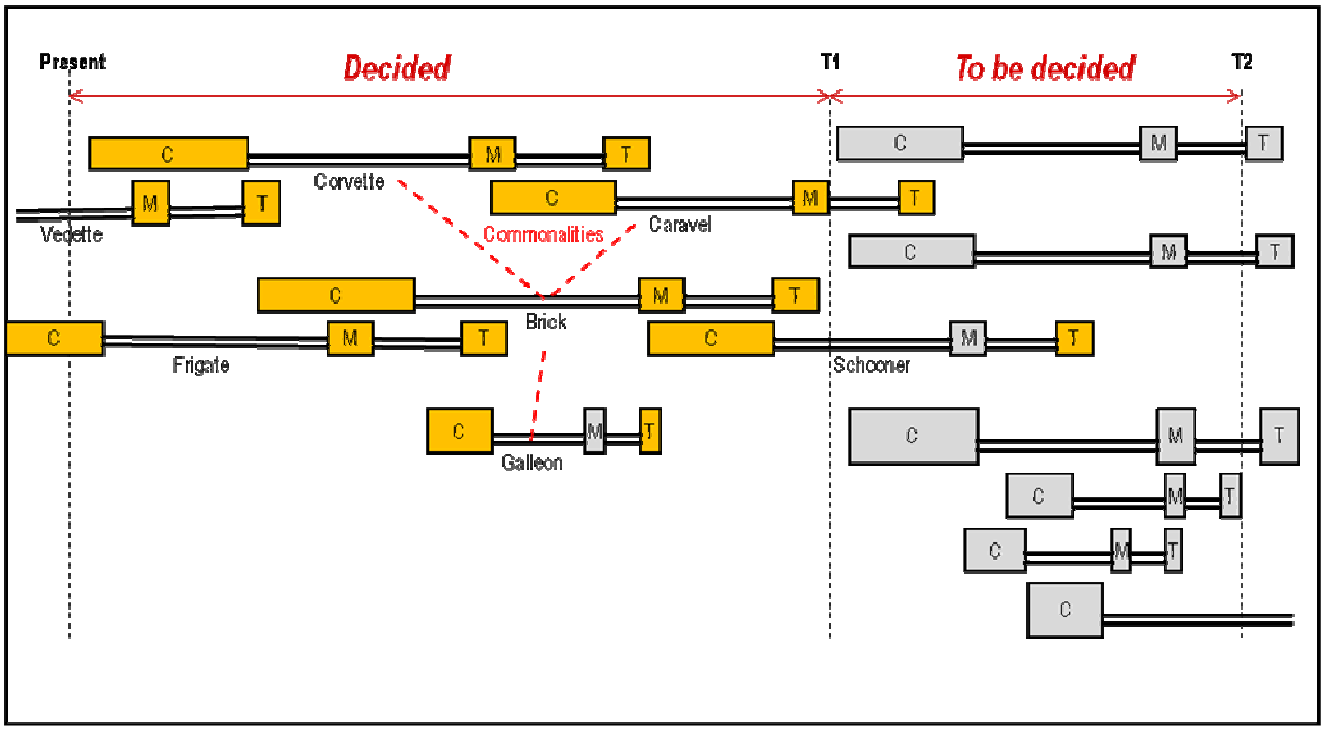
The benefits management in the projects machine organization is made by permanent bodies. That can lead to two different and incompatible conclusions :

- ***No programs in the projects machine***
- ***Programs are not necessary transient***

A choice is to be made.

And also "Please pay attention to the project machine…"

7 Ambiguity 7 Project, product and business portfolio



Proposition 7 Product management and PPP management relation

The projects portfolio in the projects machine organization is an appendix of the product portfolio, used to check its feasibility.

The strategic figure is the product portfolio.

In the projects machine organization, it is often possible to say that products management include or replaces program and projects portfolio management.

In every organization, the relations between PPP management and Product management should be clarified.

And once more : "Please pay attention to the project machine…

Workshop report Theme 2
Governance, permanent organisation and project organisation

Moderation and Report: Rodney Turner and Yvonne Schoper

1. Introduction

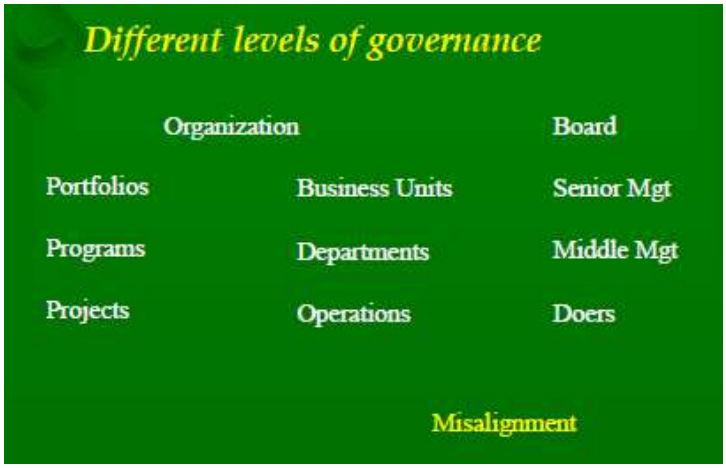
The following participants joined the session:

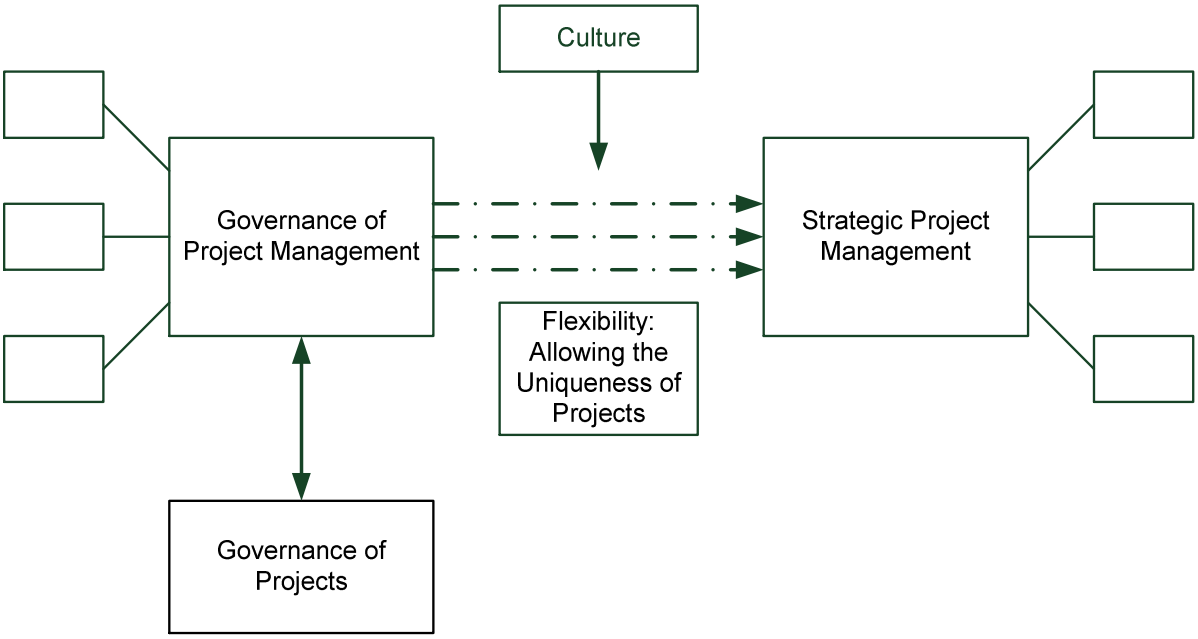
Raphael Albergarias Lopez (Brasil), Eva Aue (Germany), Samuel Barros (Brasil), Maria do Rosario Bernardo (Portugal), Arnar Björnsson (Iceland), Andrew Burns (Germany), Sandra Choles (Switzerland), Sofus Clemmensen (Denmark), Michael Flynn (Switzerland), Rüdiger Geist (Switzerland), Helga Iarusdottir (Iceland), Alex Jalalian (France), Hans Knoepfel (Switzerland), Przemyslaw Kuston (Poland), Andreas Nachbagauer (Austria), Kurt Rohner (Switzerland), Grazyna Rzymkowska (Poland), Katharina Sägesser (Switzerland), Joop Schefferlie (Netherlands), Yvonne Schoper (Germany), Martin Schwaar (Switzerland), Mehran Sepehri (Iran), Oliver Sifig (Switzerland), Jan Simon (Germany), Marisa Silva (United Kingdom), Rodney Turner (France), Szymon Urbaniak (Poland), Mladen Vukomanovic (Croatia), Reinhard Wagner (Germany)

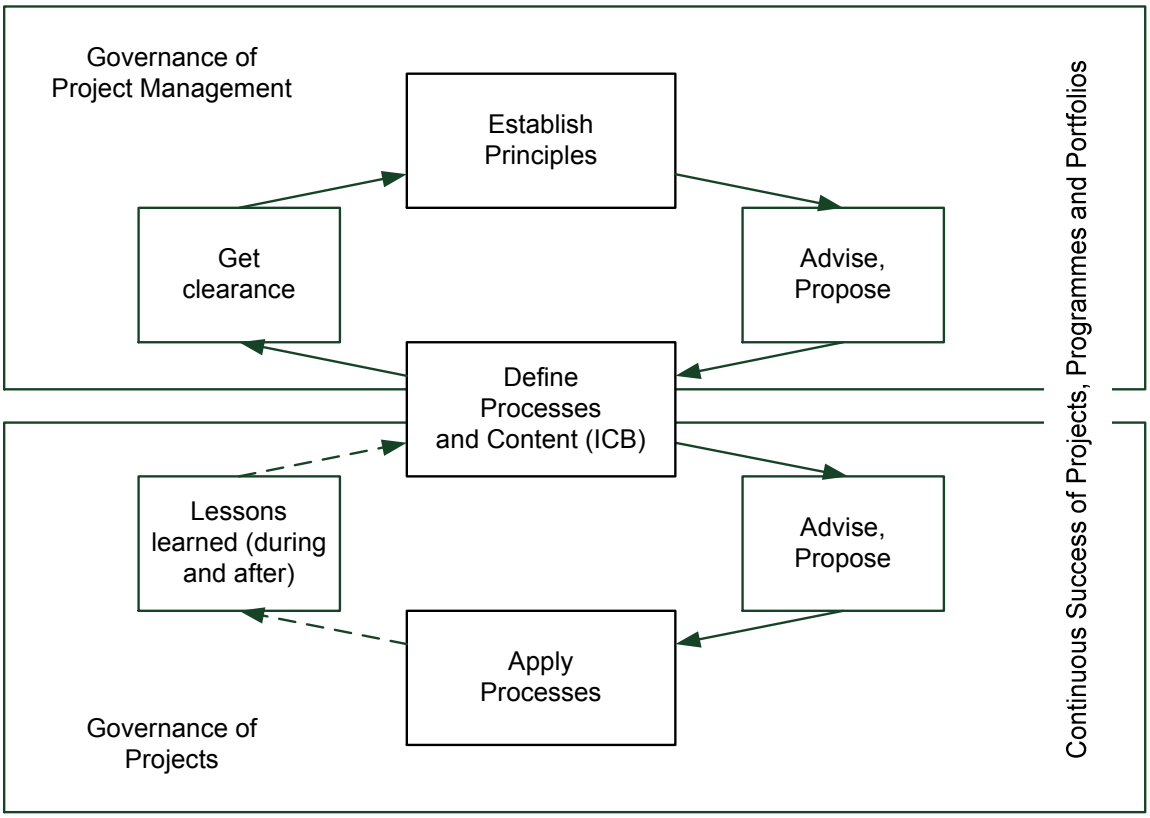
2. Discussion

A shared idea within one sub-group of workshop participants is that the **projectification of the society** is the current **Basic Trend** in the economy. Two additional trends were mentioned: **Agile and Human Resources**.

Concerning the **governance and organisation**, different **levels** were distinguished:




Culture
Governance of Project Management
Strategic Project Management
Flexibility: Allowing the Uniqueness of Projects
Governance of Projects

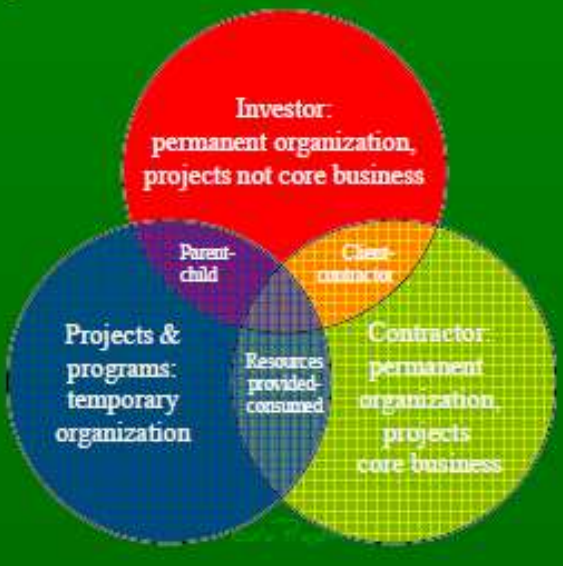

Governance of Project Management
Establish Principles
Get clearance
Advise, Propose
Define Processes and Content (ICB)
Lessons learned (during and after)
Advise, Propose
Apply Processes
Governance of Projects
Continuous Success of Projects, Programmes and Portfolios

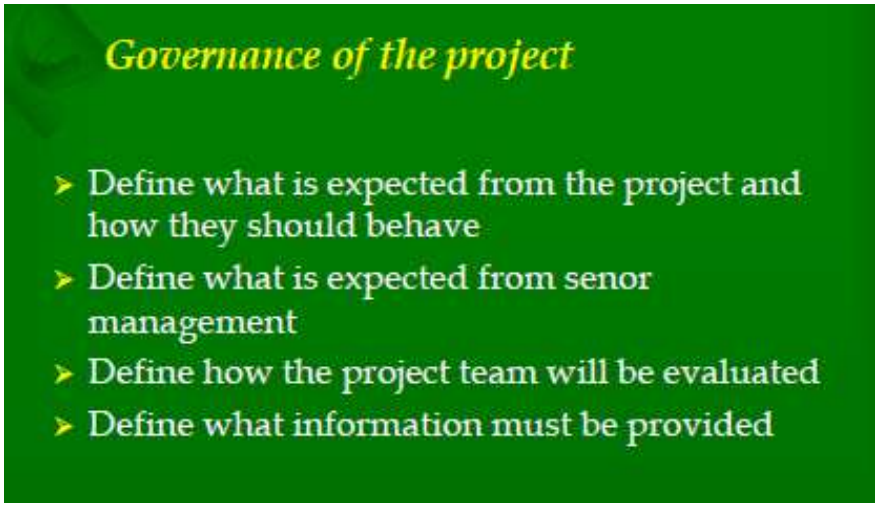
Issues

- Senior managers don't understand their role on the steering committee
  - but senior management define governance so define role
  - do PMs sya what support they want
- Relation between internal and external parties
- Emphasize change, knowledge structures, customer orientation

- Governance of projects
- Governance of project management

Three organizations involved in projects





Concerning the terminology the question “Does anybody **sponsor** a project?” was asked

A possible response was that normally nobody would sponsor a project. Also sponsoring has the negative connotation of hidden interest.

A project is normally undertaken as an **investment** by one or several parties who are interested in the project results and are the **project owners**.

The project is justified by its benefit to the stakeholders, in the future.

The investment and benefit is not limited to the economic and financial components.

Classical versus non-classical project management

John Hermarij

From the very moment the human race settled and started to build solid structures like temples, palaces, meeting rooms and so on, there must have been something like project management. It was not until the last century that individuals started calling themselves project manager and made it a profession. One from which a professional could derive his or her identity.

In the sixties we saw the first books on project management and further along the time line we have seen the birth of large project management associations like IPMA that have dominated the discourse on projects with their conferences and certification programs. Somewhere along this line the methodologies came into being and swept and are still sweeping the face of planet Project. We have seen concepts like programs and portfolios emerging and also benefits management has become an area of interest. Not long ago another very interesting phenomenon known as the Agile way of working has seen the daylight. This thought has changed the way in which we view the tension between progress and available time. Many believe in it as is it the Holy Grail of project success.

In the meantime the community of practice together with their executives, principals, sponsors and customers are struggling with the concept of project success. This simple seven lettered word is not that easy to be defined. Is it within time, budget and according to specifications? Or does it mean the appreciation of the results delivered by interested actors? Apart from this philosophical discussion the general opinion is that a lot of projects, too many, are failing. That is something we need to improve. The ample set of books and articles on project management seems to indicate that project performance is unsatisfactory, and that we need to adapt ourselves to a changing world that is demanding another ‘non-classical’ approach of projects.

The question to be answered is: “Does such a form of project management exist?” Or is classical project management that what we used to do, and non-classical what we should do, facing the changing circumstances? Or is it just begging the question?

The proposition that is made in the introduction of this stream is that there is no such thing as classical project management, but whenever someone is referring to it, he or she is proposing a better way of managing projects. It is a proposal for transformation nothing more and nothing less. In this stream we will investigate some of these proposals for change.

During the introduction we will look at the bigger picture, how you are influenced by the rules of practice, the community, the instruments available and the ways in which the work is divided amongst the workers and the management class. We will draw an image of a contingent project manager that accepts non-classical approaches as an invitation to transform. It is above all someone that facilitates the learning process, amongst the members

of the team and all the other interested parties, that is needed to bring the project to a successful conclusion.

It is the same that used to manage projects before, it is the archetypical project manager that knows his classics, but the one that is not afraid to be transformed. It is the Project Manager (with the capital P and M).

Utilization of the Systemic Approach in Project Management

Joanne Huang, Sonja Armatowski, Eva Aue, Michael Boxheimer, Simone Gehr

Abstract

With the emergence of systemic coaching and systemic organizational consulting together with the increasing appreciation of personal and social competences in the IPMA ICB, we experience currently a growing interest in systemic methods. But there is still a lack of practical approaches and recommendations.

The purpose is to select systemic interventions that could be helpful in a project. These interventions are meant to shape the relations between the project team members and their communication in a way to develop cooperation and finally support the efforts to accomplish the project deliverables and to achieve the objectives.

The systemic concepts form the background for a new and different perspective on projects and project management. Two existing competence areas will be combined: systemic interventions and methods to manage projects.

For the scheme of building a toolbox of systemic interventions we can draw from numerous defined interventions. The feature of the involvement of multiple cultures requires a heightened sensitivity and awareness.

Systemic concepts and tools help project managers to execute projects smoothly and successfully. For that purpose we created a model called “Intervention-Tool-Matrix“.

Key words

Systemic approach, systemic methods, systemic interventions

1. Systemic Methods in Project Management

In the last decades system theory influenced a wide range of social disciplines as well as the world of management.

It derives from many different areas of knowledge (see below). A consistent and complete system theory has not yet been established but for decades scientists and practitioners have developed theories, values, terms and approaches (Königswieser, Hillebrand 2011, p. 25f) that bear reference to the approach of how to apply systemic concepts to projects and project management. In the context of this paper, system theory will be used as a model of thought.

Important contributions to system theories and practices were published by authors of a broad scale of disciplines, e.g. physicians, biologists, philosophers and sociologists. Their fundamental ideas represent a paradigmatic change in the way the world can be perceived.

The basic idea moves away from the view conventional of mechanistic models and causal relations to the idea of circular interactions, universal interconnections and non-controllable systems.

An overall attempt to transfer the system approach towards project management was already set up from the mid-90s by a GPM-working group “Neue Wege im Projektmanagement”, led by Manfred Saynisch. The outcome was an interesting set of consistent ideas, the so-called “PM 2nd Order” (Saynisch 2002) which was developed further over the years (Saynisch 2010). Saynisch’s important contribution was to open a new insight on the behavior and dynamics of project management and to make it more comprehensive.

An early attempt to establish systemic thinking in the wider project management community was made relatively early by the Austrian PMA and its standard textbook “Happy Projects!” (Gareis 2006).

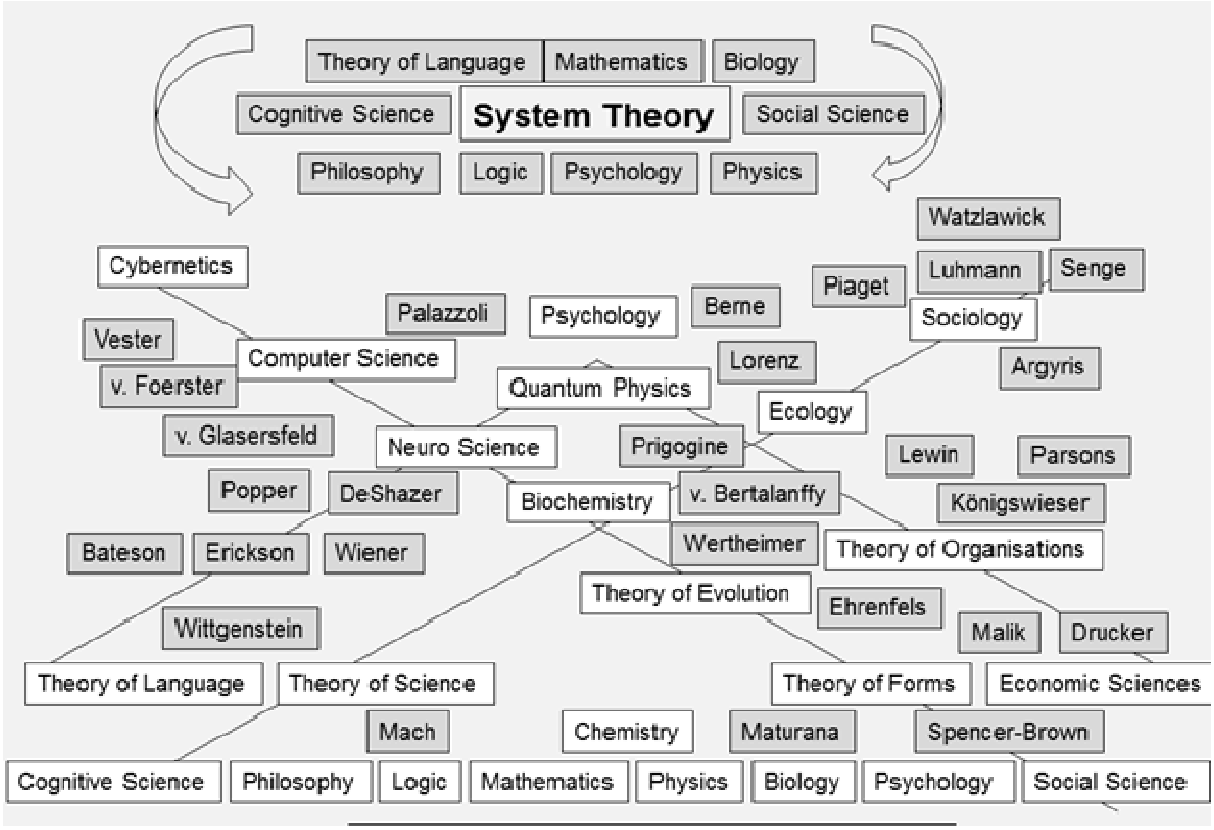


Fig. 1: Development of system theory
(own depiction in reference to Königswieser, R., Hillebrand, M., 2011, p.25)

Apart from various fundamental works on system theory, a branch emerged, which can be defined as personal system theory (König/ Volmer 2008, p. 38) or more common: the “systemic approach”.

A wide network of authors, consultancy groups and research groups have developed viable applications and focused on the more practical aspect of system theory. The systemic approach covers areas like general therapy, family therapy, relationship counseling and educational science. In these areas specific applications - so called “interventions” - were developed and successfully applied. The term “intervention” is used in systemic contexts and is understood in the more common sense of “tool”. They were transferred to the management area and applied in organizational development, change management, conflict mediation and personal coaching.

With the emergence of systemic coaching and organizational consulting together with the increasing appreciation of social factors in the ICB guidelines (see: IPMA International Project Management Association, 2006, p.37ff) we currently experience a faster growing interest in systemic approaches in the area of project management. The current textbooks of GPM and SPM show several systemic approaches in their chapters about behavioural competences (Gessler 2014).

But there are only a few current publications linking systemic theory and project management. In many cases they can be characterized as an effort to explain the systemic view on project management to the community (Heinrich 2014 and Trepper 2012).

Its potential lies in the ability to shape the relations between the members of a project system and to facilitate their communication in a way to develop cooperation and finally support the efforts to accomplish the project deliverables and to achieve the objectives.

The technique of focusing on own resources and a common comprehension of the target mobilizes self-organizational forces to establish new patterns.

The systemic approach enables the project members to behave in a more active way by heightening sensitivity and awareness of the individual background of each member. This is even more important when the project is embedded within an international context.

The systemic approach provides tools to avoid conflicts or solve existing problems.

There still seems to be a gap between the promised potential of systemic thinking and its application in real projects. One reason is certainly the inherent difficulty of transforming an universal, constructivist, non-linear paradigm, which even further dismisses our familiar principle of causality considering the real needs of a common project manager who tends to have rather a hands-on mentality.

This leads to the topic of this paper:

- How can a project manager make use of systemic concepts in a concrete project situation?
- Which practices and interventions are available and usable?

The central statement is the possibility to combine two existing knowledge areas: systemic interventions and methods to manage projects.

We would like to equip project managers with practical means familiar to their way of thinking: a collection of interventions. We want to provide the suitable practice for defined project situations.

Our purpose is to enrich but not to substitute classical PM with systemic elements. We want to enhance classical project management by providing existing specific systemic interventions for certain stages in the projects' progress. Hence we use the definition of project phases according to DIN 69901 as a framework and allocate examples for appropriate systemic interventions to these project phases. A similar approach has also been described by Markus Köstler (Köstler 2014, p. 63-123).

Fig. 2: End to end project phases
(own depiction based upon: DIN Deutsches Institut für Normung (publisher 2009, p.48f)

The expectation is that by using these tools a project manager gets the opportunity to grasp the idea of systemic thinking and will consequently be able to develop own systemic practices adapted to a specific situation.

In the following chapters we give an overview of some of the most relevant elements of system theories and the systemic concept they are based upon. We then introduce the concept of "systemic intervention" and provide a selection of examples, which can be assigned to specific project phases. Finally we show in two cases how to apply them in practical situations.

2. Systemic Concepts, Projects and Project Management

At first the relevant concepts of system theories and their core statements will be introduced.

All system approaches in various disciplines show common characteristics. The thinking model leaves the mechanistic machine model and the belief in objectivity behind, it uses the principle of autopoiesis, multiple perspectives, self-reference, circular interaction, construction of reality and others. It is a response to the complexity and dynamics of living environment and the related uncertainty and uncontrollability (Königswieser, Hillebrand 2011, p. 28). A project is perceived as a system that exists for a certain time. The systemic concepts form the background for a new and different perspective on projects and project management. In this sense projects are not conceived as some kind of machine but as complex systems that cannot be managed and controlled by a linear or targeted approach (Meier 2004, p. 30). The proverb "There is nothing as practical as a good theory" (Tolman 1995, p. 31) illustrates the direction of our approach: We use system theory as a basis for

further discussion and link it to our objective to utilize it for viable approaches in project management.

The following elements of personal system theory form the background of our approach to systemic interventions:

- social system
- autopoiesis (self-organization)
- communication
- self-reference
- circular interaction
- patterns
- construction of reality
- observations of 2nd order
- orientation towards solutions, resources and the future

This short overview outlines some elements:

- **Social system**: A project is considered a temporary social system; the difference to its context can be determined by the communication of its members. The sociologist Niklas Luhmann generalizes the concept of autopoiesis and transferred it to other types of systems. He distinguishes social, mental and organic systems, which are separate from each other and operatively closed.
- The operations of the systems are:
    - communication (social systems)
    - thinking and feeling (mental systems)
    - biochemical processes (organism)

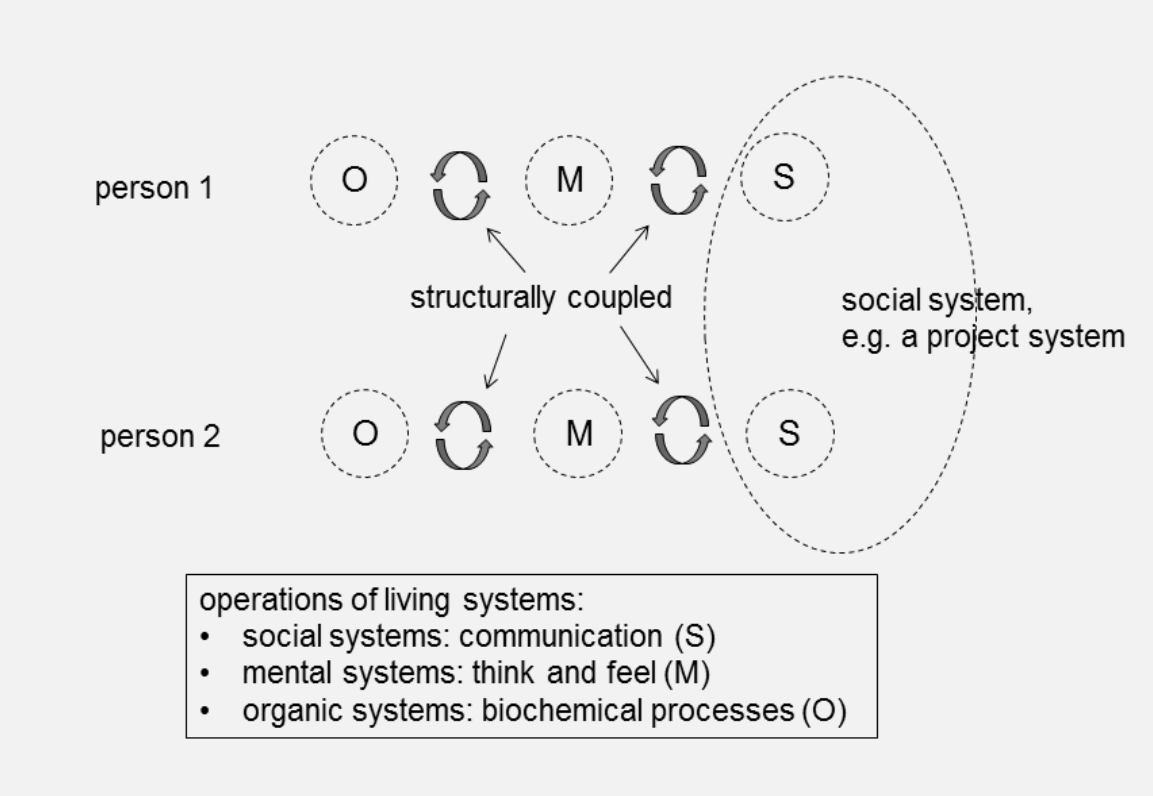


Fig. 3: System level of persons and their context (Schweizer, Zwack 2013, p. 7)

Each system can only operate in its own typical mode. The systems are not mutually accessible but each one belongs to the context of the others. The system types are structurally coupled and irritate each other. The mental system, biological systems (organism), other social systems and technical systems form the context of a social system.

A social system, for example, emerges when communication begins. The elements of a social system are communication events. These elements are reproduced by autopoiesis but not in the sense of identical reduplication, but subsequent to the preceding elements.

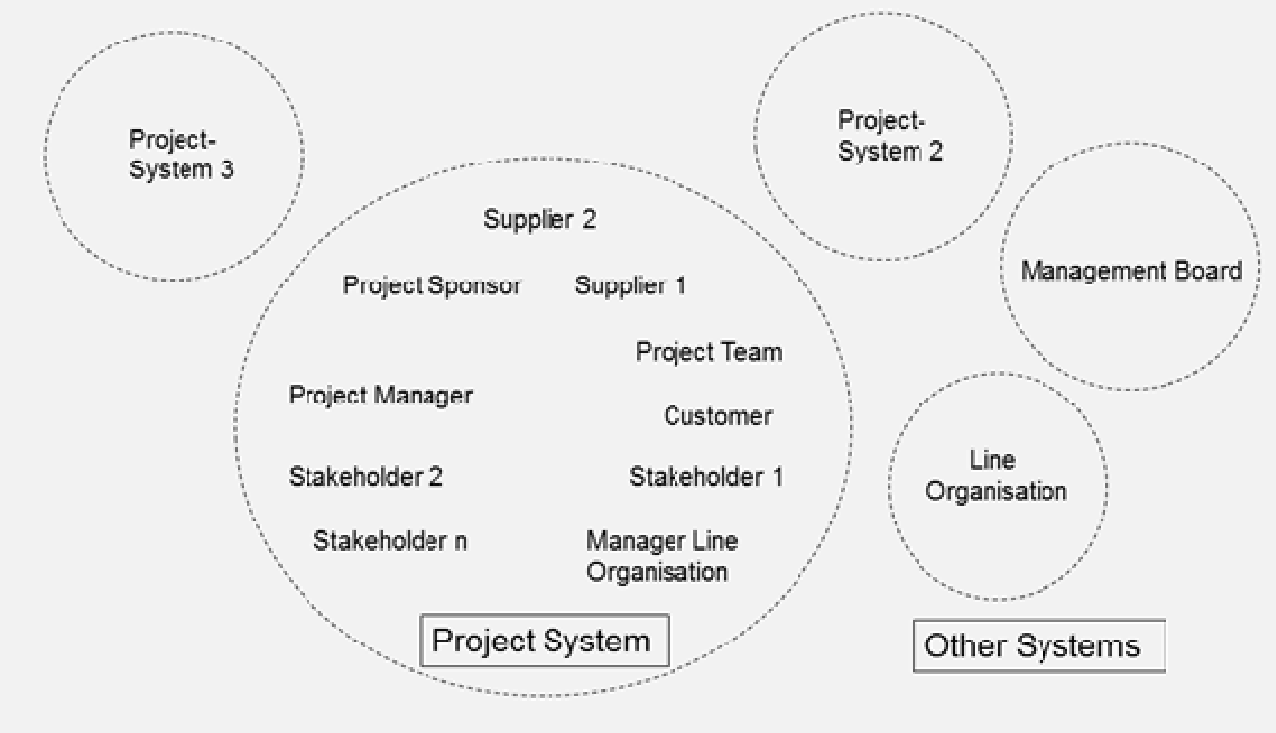


Fig. 4: Social systems: the project and its context (cf.: Boxheimer, Michael: 2015, p.20)

From this perspective, humans are not autopoietic systems, but consist of mental systems and the organism which belong to the context of a social system.

The boundaries of social systems are defined by patterns of communication; they distinguish associated and non-associated communications. Thus it appears that the limit of the social system "project" is defined by the corresponding communications (see also the figure: the social system “project” and its context).

- **Autopoiesis** (self-organization) (Maturana 1974): A characteristic trait of a system is the ability to produce and reproduce the elements and structures that are necessary to continue its operation by using the elements of the system (e.g. a cell) – it establishes a border to its context and sets up an operative unit, a closed system – at the same time an autopoietic system is also open, the ways of exchange between the system and its context are defined by the system, not by its context. (Kneer, Nassehi 2000, p. 48, p. 50f). Living systems are coupled structurally with their environment. Events in the context can disturb living systems in their operation, if the structure of the system allows it. Self-organization results in the achievement of new operation patterns. The idea of autopoiesis has been applied to all living systems (social, psychic and organic systems). Transferred to project management it means: The project team builds up its own ways of communication and behaviour towards each other (e.g. rituals). The emergence of these patterns can be influenced in a productive way using systemic interventions.

- **Communication** is understood as a specific operation of social systems. It consists of the synthesis of three selections:
  - Information (a selection from a variety of possible information)
  - Communication
    (e.g. the selection of one medium verbal / non-verbal / written)
  - Understanding (the "recipient" tries to understand the meaning).

The communication is realized only when it is understood.

If the "recipient" decides to make a statement, he begins the next communication (Kneer, Nassehi 2000, p. 81f).

The project manager might say in a project meeting: "The delivery date mentioned by the supplier does not meet our project plan". This message is understood individually by the listening participants in a construction of reality on the background of personal relevant experience, knowledge, attitude etc. They will draw their conclusions and their reactions may take place in various personal ways e.g. one might ask for escalation at the steering committee or somebody else might make excuses.

The behaviour of individuals is also conditioned by the behaviour of others and influences them in turn. The project system operates with the communication of its elements and thus sets itself apart from the context. The communication operations create forms that constitute the framework for further communicative operations, thus forming structures of the autopoiesis of the social system "project". The selections made during a communication determine the possibilities of subsequent communications. Differentiations will evolve; the operations of the social system create structures and patterns, which will be the basis for an autonomous autopoietic system. Transferred to project management this means: a social system emerges as soon as the members meet for the first time and communication begins. This offers the opportunity to establish and influence the communication patterns and the behaviour in a positive way.

- **Self-reference** is the term used for the mode of operation of a social system. It describes the ability of a social system to create a reference to itself and to distinguish itself from the context by some sort of operational closeness. However, there are connections to the context – if and how the impact of the context is processed by the social system is determined by the social system itself. The social system has its own scale to decide if and how it will process an impact from the context (autonomous way to operate) (Willke 1991, p. 193). The context offers opportunities; the system itself determines, however, how it treats these possibilities. This fact refers to the internal cohesion of the system. It reflects the autonomy of a self-referential system: no external influence can be exercised on the system in such a way that it fulfils the intention of the influencer. Only the social system decides through internal operations if and how an external impact is processed. A social system does not operate based upon the principle of cause and effect. There might be no visible results of an external

impact on a social system or there may be results, but unexpected ones.

- **Circular interaction**: The systemic theory includes circular interaction but not the principle of cause and effect (e.g. based upon an intervention) to achieve an objective, as it depends on the structures of the social system how to deal with an intervention. Operations of a social system can be better described as a process of interdependencies, but not as a linear process. The participants of a communication of a social system are influencing each other: I am influenced by the communication of my counterpart and simultaneously I influence his communication.
- **Patterns**: Beginning with an emerging communication, a social system develops communication and behavioral patterns. Patterns can be described as an expression of repeated communication or behavioral processes. Depending on the objectives of a social system these patterns can constitute a beneficial or detrimental factor for the achievement of the objectives. Systemic interventions can be used to confirm or reinforce beneficial patterns. Detrimental patterns should be reduced or weakened or replaced by beneficial patterns. An example for a detrimental pattern is the blame game: some members of a project team cannot keep their deadline, but nobody wants to disclose this fact during the status meeting - each one is hoping (or knows) that one of the colleagues might be in a worse position, so that own problems remain unnoticed.
- **Construction of reality**: The human nervous system transmits the sensory perceptions seeing, hearing, smelling, feeling as nerve impulses to the brain, which processes all the signals and assigns them significance or relevance . Individuals construct their own reality based upon the stimulation of senses, the perception apparatus, own experiences, cognitive influences and social conventions. Additional factors are thinking, feeling and memories. (Kneer, Nassehi 2000, p. 52f). An objective truth does not exist, everyone believes the own reality to be the “real” reality. Everyone constructs their own subjective world. Individuals organize their perception based on own criteria and experiences from the personal past. These experiences and their subjective interpretation act as a filter for incoming information; it is only perceived what suits the interpretations. Transferred to project management it means: each team member has an own way of constructing reality, a valuable asset for the team as the project can be observed from many perspectives.

3. Systemic Interventions for the Role of “Project Manager”

The predominant practical method of systemic concepts is the “systemic intervention”.

Interventions in autopoietic systems mean that the behaviour of autopoietic systems cannot be controlled; it defines even the direct influence through interventions. There is no direct connection between an intervention and a new and better state of the system (no direct input - output ratio). The systems are characterized by circular cause-effect relationships. Since the

parts are linked together and interrelated, it cannot be objectively decided what is the cause and what is the effect. An intervention is the communication of a project manager with team members, which triggers a reflection or disrupts the use of a pattern - but only if the system allows it. Maybe the communication causes no reaction at all because the system did not process the intervention. The system's response to a disturbance is not foreseeable or controllable. The principle of self-reference means that any change of a social system cannot be caused directly by external interventions; it represents always the result of a self-transformation of the social system.

Transferred to project management interventions are communications e.g. of the project manager in the social system. The intervention generates further communication involving interacting members of the social system. The project manager makes interventions until a result (pattern) develops, which is experienced as consistent or as a solution by the system.

To apply systemic methods to project management means therefore to select existing systemic interventions that can be useful in projects and assign them to the different project phases (see above).

We are convinced that systemic concepts and tools help project managers to execute projects smoothly and successfully. For that purpose we created a model called „Intervention-Tool-Matrix“. For this model we used the norm of DIN 69901 (DIN, 2009, p. 48f) and took into consideration the project life cycle (initiation, definition, planning, execution and closing), see Table 1.

	Intervention				
Role	Initialization	Definition	Planning	Execution	Closure
Project manager of the system PROJECT					
Member of the system TEAM					
Member / leader of the system project ORGANISATION/ DIVISION					
Member / leader of the system CORPORATION					
Stakeholder 1st grade (customer, supplier, foreign partner/colleague etc. within their specific system)					
Project phases (DIN69901)					

Table 1: Intervention-tool-matrix

For the scheme of building a toolbox of systemic interventions we can already draw from numerous defined interventions. A selection of examples for the role of "project manager" is introduced below, see Table 2.

	Intervention				
Role: Project manager of the system PROJECT	Initialization	Definition	Planning	Execution	Closure
Initial systemic dialogue with potential team members	○				
Systemic clarification of the mandate with the sponsor	○				
Sociogram	○				
Develop a common understanding for terms and target	○	○			
Newspaper article		○			
Paradox PM		○			
Lessons learned from present and past projects		○			
Tetralemma or force field analysis		○	○	○	
Follow up systemic dialogue with team members		○	○	○	○
Intercultural awareness		○	○	○	

Table 2: Mapping examples of systemic interventions to project phases for the role of "project manager"

Examples of systemic interventions

In the following section, we explain some interventions in more detail. They can be executed as stand-alone interventions or they can enhance "classic" workshops and daily business.

Initial systemic dialogue with potential team members (and follow-up dialogues): In addition to a dialogue about the objectives and deliverables of the project, systemic elements can be used, e.g.:

1. Questions based on the past: This is a questioning technique to discover hidden resources and possible solutions.

   Examples:

   - "What type of solutions were used successfully in the past and hence should be used now as well as in the future?"
   - "For which problem in the nearby past did you find a proper solution? How did the solution look like?"

- "When did you face a similar big challenge in the past? What have you done to solve it?"

2. Behavioral questions: This technique helps us to understand a person's behaviour in certain situations.

   Examples:

   - "What would you do differently this time to avoid this type of conflict?"
   - "What forms of behaviour could motivate the team members to give feedback?"

3. Circular questioning: The technique of circular questioning entails finding out the feelings and reactions of person A based on the behaviour of person B. Person A is prompted to speculate about the opinion of a third person.

   Examples:

   - "What do you think James would say?"
   - "If I asked Mr. Miller (here: effected stakeholder):
     'What is an important present goal for you?' What would he answer?"
   - "What do you think is your most appealing strength for your colleague Steve during this project?" and "What would he answer if I asked him how you could support him?"

4. Active listening: Interpersonal communication consists of the continuous feedback given by the listener to the speaker during a conversation. The listener confirms what he heard by way of repeating in his own words what the speaker said to confirm that he correctly understood the message of the speaker.

   Examples:

   - "I understood, that the most important thing for you is….. Did I understand this correctly?"
   - "You mean, we should…. right?"

Tetralemma

The Tetralemma ("4 corners" in Indian Sanskrit) describes four possible and different perspectives one can take when it comes to a decisional conflict: "one side", "the other side", "both of them", "none of them" (Varga von Kibéd, Sparrer 2014, p. 75f). It can be used as a basis for the development of a different understanding of a problem and enhances the possibilities of better decisions.

Force field analysis

The idea of a force field was developed by the social psychologist Kurt Lewin (Lewin 1939). A force field analysis describes the forces, which influence a goal either by blocking or by promoting it. The resulting insights help the initiator of change to find the right way of

communication with obstructive forces as well as to use the supporting forces for the project's success.

4. Intervention Instructions and Case Studies

With the following two examples we would like to demonstrate how instructions for interventions could look like in practice. They provide workable advice how to use them in the area of project management.

In order to illustrate, how the project business can be affected by systemic interventions we also show how the second intervention was performed in a real business case and its outcome.

Instruction example 1:
NEWSPAPER ARTICLE

Area of application	Practicing the writing of a newspaper article to be published after the successful end of a project is an exercise that can be done by the project team at the early beginning of a project. The "kick-off workshop" is a good occasion for this exercise.
Goals	*Thinking at the start of the project about the success documented at the end of the project* • *makes it necessary to think about the common targets the team has to reach* • *helps to show differences in the understanding of targets* • *is a good base to clarify goals or define unclear objectives in a better way* • *creates a mental picture of success* • *motivates the team to join the described situation as one*
Duration	*30 minutes, in addition to presentation and discussion with the whole group. Duration for presentation and discussion depends on group size.*
Preparation	*Point out the definition of the task on a flipchart. Think about a good configuration of groups (i.e. about a sub-project leader in each sub-group in case of bigger projects). Get flipchart pens and paper or laptop(s) and a presenter. In case of a bigger group you might need some separate working space, the sub-teams can use.*
Method	*A moderator or project leader will ask the project team to write an article for a newspaper. The team has to think ahead and imagine the situation after the project will be completed*

	successfully. The task is as follows: *Imagine the following: the project is finished. All targets were met and the project ended successfully. A very important newspaper publishes an article about this huge achievement.* • *define the newspaper* • *phrase the headline of the article* • *write this article together with your group* *(time: 30 minutes, prepare the presentation of the article in front of the whole group)* *The moderator or project leader divides the group members into several groups or in case of a smaller audience decides in accordance with the group to do it together.* *The groups choose separate working places and accomplish the task.* *Afterwards the entire group comes together, every sub-group presents its article and comments on each other's results. The best proposals are pointed out and, if necessary, a discussion about the targets takes place.*
Requirements	*Adequate room and a project leader with moderation skills or a moderator.*
Factors of success	*An open-minded and motivating project leader and a solid preparation*

Instruction example 2 and case study:
REFLECTION OF OPINION AND MOOD

The approach of the following systemic intervention was used in an organizational project of a multinational company. Due to a strategic decision one department had to be dissolved. One part of its operations had to be outsourced. The other part had to be transferred to another department. A social-compensation plan was in place to deal with the necessary reduction of staff. The goal of the project was to conduct the transfer of the relevant processes to the new organization. Members of both departments were team members of the project. Their contribution was essential for a successful transfer. The leader for this project came from a different part of the company.

During the project's kick-off workshop and all the following workshops the project manager used the method of REFLECTION OF OPINION AND MOOD.

Area of application	For project leaders during kick-off and following workshops
Goals	*The REFLECTION OF OPINION AND MOOD enhances the level of professional cooperation by integrating the additional dimension of expressed views of project team members. When used regularly, it* • *stimulates the mutual understanding of the team members and enhances COOPERATION* • *serves as an excellent mood barometer* • *provides evaluation of measures set up to enhance cooperation and project work*
Duration	*A few minutes, depending on the group size*
Preparation	*Preparation of questions on a flipchart, power point page, paper etc.*
Method	*The REFLECTION OF OPINION AND MOOD is used at the end of a meeting or a workshop. The project leader asks for the personal view of each team member. Each person has to answer individually. The statement should represent the personal view (not the view of the company, the team or the boss). There should be no feedback on the statements. Only questions for a better understanding are allowed. The project leader and the team should listen actively and intensely to the statements. There should be no interruptions.* *If used at the project kick-off the team should answer the following questions:* • *What are your thoughts and feelings about the project?* • *What do you need to contribute your best to our team?* • *What should not occur under any circumstances?* • *What do you need from the project leader to give your very best?* *There should be enough time for each team member. If ideas come up concerning the enhancement of the project work and cooperation the project leader must decide to discuss it either now or after everybody´s feedback.* *If the method is used in a follow-up meeting the number of questions should be reduced, e.g.:* • *What are your actual thoughts and feelings about the project?* • *What do you need from the team or team leader to take the next steps?* *The time for each statement should be long enough to obtain concrete information. But it should be short enough to prevent lamenting and prolonged monologues. 1-2 minutes per person has proven to be a proper time frame.*

Requirements	*Willingness of the project manager and the team to actively listen to each statement*
Factors of success	*The project manager should be interested in the team's view and the optimization of cooperation. There should be enough time to perform the method and record measures for improvement.*
Tips and tricks	– *The project manager should not be the first person to state his view. This could influence the statements of the others. When used for the first time this method could cause feelings of unease. A lot of people are not used to openly express their personal view about the working process. But they will adjust very fast. Let a self-confident and sensible person make the first statement, it helps.* – *Quite often people tend to change from their personal view to an objective view. In this case please intervene.*

By using the method of REFLECTION OF OPINION AND MOOD the project leader gained deeper knowledge about the mood of each single team member. They worried about their future and were afraid that people would leave before the project's go-live, which would lead to failure of the project. In addition they were sceptical if they would be able to perform their work in the same quality in the future. Some cooperation issues between individual team members from the different departments came up. And it became obvious that the two departments had a different working and leadership culture.

The project was heavily influenced by the progress of the social-compensation plan and statements of the executive board. Many members of both departments were repeatedly upset and/or frustrated. The regular use of the method enabled the project manager to keep very close to the mood of the team and to act at the right time.

The project members got very soon used to the method of REFLECTION OF OPINION AND MOOD. Due to the possibility to express their personal view, they identified strongly with the project and its successful implementation. One day when the project manager forgot to use the method at the end of the workshop the team actively requested it.

The use of the method did of course not completely prevent both departments from gossiping and complaining about each other. But it promoted a certain level of openness between the project's team members. In the end the project was implemented successfully.

5. Next Steps

This essay describes a special perspective on project management – based on the systemic paradigm. It explains selected elements of system theory and the benefits from the utilization of the systemic approach in project management. It demonstrates several examples of systemic interventions and their assignment to project phases.

As a next step we will complement the matrix for all typical roles in project management. According to the scopes of the different project phases we will precisely point out the significant contribution of the systemic approach to project practice as well as the suitable tools for each phase.

The matrix is not limited to domestic project work. It also considers the aspect of interpersonal communication in international circles. Although global business is a normal occurrence nowadays, intercultural significance is unfortunately often ignored during the stages of project planning and project implementation. (Huang, 2015). Different mind-sets and behaviour patterns are clearly risk factors and can endanger the project result. However they can be significantly reduced. The more sensitized one is regarding the project's daily life, the earlier a lot of intercultural conflicts can be avoided and the better one is able to retain control of the situation. We show the way how to apply systemic theory to project work and allocate possible intercultural interfaces and the appropriate tools for each project phase.

As a user of systemic interventions you can benefit by improving your personal competences. You will be able to shape the relation of team members and their communication in a way that facilitates cooperation and helps to achieve the project objectives.

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The mindful project manager: Preliminary results

Gunnar Petur Hauksson and Haukur Ingi Jonasson

Abstract

Project management is worldwide an ever-growing discipline and an increasing number of businesses focus their operations around projects. Although project success factors have been studied for decades it is only recently attention been paid to the leadership- and management competence of project managers as a project success factor, predominantly by Ralf Muller and J. Rodney Turner (Turner & Muller, 2010). Among novel leadership related subjects is "mindful leadership", an ideology that spurs from the rise of the concept of mindfulness meditation and as a topic of scientific research. Mindfulness mediation focuses on practicing non-judgmental attention to and awareness of moment-to-moment experiences. Mindfulness meditation has been shown to have various beneficial effects on the physical and psychological health of its practitioners as well as positively altering the process of thoughts, emotions and behaviour. Even though there is some project management literature that acknowledges mindfulness meditation as a possible source of enhanced emotional intelligence none of them go into detail on exactly how it could possibly enhance separate key competencies for project success. The goal of this thesis is essentially to preliminarily explore the link between the leadership competences as success factor in project management and the possible benefits of mindfulness meditation in the context of management and leadership. To do this we reviewed the literature to shed light on if, and then how, mindfulness meditation practice of project managers could potentially enhance key leadership competences for project managers and thereby influence the future success of projects.

Keywords

Project management, Leadership, Mindfulness, Emotional Intelligence.

1. Introduction

Although project success factors have been studied for many decades it is only recently that attention has been put on the leadership- and management competence of project managers as a project success factor, predominantly by Ralf Muller and J. Rodney Turner. Turner and Muller (2010) state that this is in contrast with preceding literature that largely ignored the leadership style and leadership competence of the project manager as a success factor. Throughout the last century, leadership literature and theories have progressively emphasized how emotional capabilities are not less important for successful leadership than intellectual capabilities (Turner & Muller, 2005). Daniel Goleman is a leading authority in this area, which is commonly referred to as the emotional intelligence school (EQ) of leadership. Turner and Muller´s work, on the topic of leadership as a success factor in project manage-

ment, is an example of work that builds on Goleman´s theories (J Rodney Turner, 2005; Müller & Turner, 2010a).

Among novel leadership related subjects is “mindful leadership”, that idea that spurs from the rise of the concept of mindfulness meditation in Western culture and as a topic of scientific research. Mindfulness mediation focuses on practicing non-judgmental attention to and awareness of moment-to-moment experiences. Mindfulness meditation has been shown to have various beneficial effects on the physical and psychological health of its practitioners as well as positively altering the process of thoughts, emotions and behaviour. The scientific and educational literature on project management acknowledges the importance of certain behaviour and there are numerous books that on the “softer” aspects (e.g. behaviour, personality, conflict) of project management and how these may be developed, such as Sharon De Mascia’s Project psychology (Mascia, 2012). However, in the context of these “softer” aspects, the scientific and educational literature for project managers seems to be largely unaware of mindfulness meditation and its potential benefits. Even though there is some project management literature that acknowledges mindfulness meditation as a possible source of enhanced emotional intelligence (Jónasson & Ingason, 2011), none of them go into detail on exactly how it could possibly enhance separate key competences for project success.

The goal of this paper is to explore the gap between the topics Leadership competences as a success factor in project management and the potential benefits of mindfulness meditation in the context of management and leadership

2. What makes a successful project leader?

The general management literature accepts leadership as an important success factor in the performance of organizations (Müller & Turner, 2010a). The same is true for projects; project managers with certain personal qualities will yield more successful projects than others (Müller & Turner, 2010a; Victor Dulewicz & Malcolm Higgs, 2005). As previously stated, this thesis aims to answer the question of whether mindfulness meditation can possibly enhance the leadership prowess of project managers, and thereby yield higher project success rate. In this chapter an overview of the scientific literature concerning leadership qualities of effective project managers is presented.

Leadership research in recent years has focused on studying leadership in terms of competencies (Müller & Turner, 2010b). Theories on leadership that analyse leadership performance through competencies belong to the competence school of leadership. The work of predominant authors on the subject of leadership as a success factor in projects, Turner and Muller, is largely based on the competency school. Over the last centuries new dominant schools of leadership theory have appeared, succeeding the previous ones. The main schools of leadership theory over the past century have been, in rough chronological order (J Rodney Turner, 2005): The trait school, The behavioral or style school, The contingency school, The

visionary or charismatic school, The emotional intelligence school and The competency school.

With the focus of these schools moving gradually towards increased emphasis on soft factors in leadership, the emotional school of leadership, appeared just before the break of 21st century. Predominant figures in this school, such as Goleman, Mckee and Boyatzis, have proven there to be clear correlation with emotional intelligence of managers and the performance of their organization (Boyatzis & McKee, 2005; Goleman, 2011).

The competency school puts emphasis on identifying the competences of effective leaders. Competences, unlike traits, can be learned and enhanced. Different combinations of competences are appropriate for leadership in different circumstances. This thesis focuses on the 15 leadership competencies identified by Victor Dulewicz and Malcom Higgs. Dulewicz and Higgs grouped the 15 competencies into three categories; 5 managerial (MQ), 3 Intellectual (IQ) and 7 emotional (EQ) competencies. Furthermore Dulewicz and Higgs created three leadership styles, based on different combinations of leadership competencies; Goal oriented, involving and engaging style (Victor Dulewicz & Malcolm Higgs, 2005).

This paper gives a preliminary overview of how to identify the potential benefits of mindfulness meditation for project managers using Dulewicz´s and Higgs´s competencies. In order to be able to make clear distinctions on the possible link between the leadership competences and their potential interaction with mindfulness meditation, it is helpful to have a clear understanding of what each competence encompasses and how each one can be applied in the context of project management.

3. Leadership competencies of successful project leaders

Which leadership competences are the most important ones when it comes to managing projects successfully? Research on this matter shows that different project manager leadership competence is important on different types of projects. Higgs and Dulewicz (2005) studied how the 15 leader's competencies influenced project success in 400 organizational projects. Their results showed how the composition of competency profiles varied based on the complexity of projects. Goal oriented leaders were most successful in low complexity projects while engaging leaders are most successful in high complexity (Victor Dulewicz & Malcolm Higgs, 2005).

Muller and Turner took the research of Higgs and Dulewicz further. They showed that all of the 15 competences are significantly stronger in managers of successful projects compared to managers of less successful projects (Müller & Turner, 2010a). They showed that one IQ competence (critical thinking) and three EQ competences (influence, motivation and conscientiousness) have a high positive impact on all projects (Müller & Turner, 2010b). Furthermore, the MQ leadership competency of engaging in communication and the EQ competences of conscientiousness and sensitivity correlate positively with all high-performing projects (J Rodney Turner, 2005). The importance of other competencies varies

between project types. Turner and Muller (2010b) showed how project managers of successful engineering and construction projects show strong critical thinking and score highly in conscientiousness and self-awareness. Managers of successful IT projects are strong in critical thinking and the MQ competencies of managing resources and empowering, as well as the EQ competencies of sensitivity and conscientiousness. Project managers in organizational change projects do unlike the other two application areas show medium or high strength in all competences.

The same study also measured the importance of the 15 competences for projects of different importance and of different complexity. The results indicate increased importance of EQ competencies as projects grow more complex and if their importance is increased. When these results are compared to the leadership profiles of Higgs and Dulewicz they indicate that the engaging leadership style is the most suitable style for project managers overall except for engineering and construction projects. The engaging style shows high expression for all EQ competences. This is in line with Muller and Turners previous research results which show strong correlation between EQ competences and project success, except for engineering and construction projects (Müller & Turner, 2007). Muller and Turner (2010) studied the importance of leadership competences for project success based on different success criteria. This study showed that strong EQ competences impacted project success in general, the correlation between EQ and project success was especially strong in projects that focus on long term success. Their 2010 study furthermore showed a high correlation between strategic perspective and success in projects measured by the traditional time, cost and quality while success from the point of view of stakeholders was highly correlated with management of resources.

It is clear by the above that a leader that is highly competent in all of the 15 competences is more likely overall to deliver more successful projects than leaders who do not. The leadership competences do indeed matter and different competencies are however more important than others for different types of projects. However, the literature shows that for project success in general, there are a few leadership competencies that have a stronger correlation with high project performance then other. It is clear is that the competences related to emotional intelligence are important to project management success.

4. Mindfulness and its effect on practitioners of mindfulness

There are numerous definitions on mindfulness. These definitions all have the same core concept. Mindfulness is the process of paying attention to what is happening in the moment – be it internal (emotions, thoughts, bodily sensations) or external stimuli (from the physical and social environment, such as sounds, touch, etc.) – and to observe this stimuli without judgment and without assigning any meaning to them. Let’s give an example, using standing in a long line as a scenario. When standing alone in a long line, most of us will automatically start ruminating about the past or the future and many will become agitated with the time it is taking to reach the end of the line. We will be in “auto-pilot” mode. If one is mindful in this

circumstances one would for example notice the sensation of the feet touching the floor, the shape of the line, and experience the surrounding sounds and scenery as well as noticing what thoughts pop up and what feelings surface. But just as importantly as being aware of internal and external stimuli, one would not impose any judgment on what he or she is experiencing. So the mindful person would notice smell of the person in front and notice how slowly the line is moving, but would refrain from evaluating it negatively.

Mindfulness is a state of consciousness. This state of mind comes more naturally for some people than it does for others. It is therefore essentially a trait. However this trait can be cultivated and developed through various acts, most notably mindfulness meditation. Mindfulness meditation develops this state of non-judgmental awareness of, and attention to, external and internal stimuli. The central outcome of mindfulness practice is improved self-regulation of thoughts, emotions, behaviours, and psychological reactions (Glomb et al., 2011). Despite its roots in Eastern religion and philosophy, the practice of mindfulness meditation has no religious connotation.

Mindfulness meditation is normally practiced in a sitting position. The author of this thesis has practiced mindfulness meditation for over a year, initially to help fight anxiety. The meditation is commonly practiced over 15 minutes up to an hour. There are numerous different ways to practice mindfulness but this description is based on the practices of the author. During the meditation session the meditator goes through a few phases. The initial phases focus on noticing external stimuli and bodily sensations. The main phase which commonly takes up to 50% of the time of the session is where the meditator focuses on his breath. The breath is not controlled but simply noticed. During this phase the mind will involuntarily wonder away from the breath and thoughts, emotions and other stimuli will disrupt the focus on the breath. The meditator simply notes the distraction, whether it is a thought or a feeling and applies a label to it, such as “this is anxiety”, “this is a thought that came after this or that experience”. The focus is then diverted back to the breath. Over time the meditator will learn notice common themes in his thoughts and how different thoughts trigger different emotions, as well as understanding what bodily sensations are accompanied with different emotions.

The benefits of this simple practice are numerous. Although meditators have stated benefits for ages, it is only now that scientists have empirically proven the validity of the positive effects of mindfulness.

5. Core mental and neurobiological processes of mindfulness

But how exactly can this simple practice able to deliver numerous and diverse benefits, ranging from increased working memory to increased empathy? Mindfulness has been proven to actually change the brain of meditators. Marchand, W.R. (2014) provided evidence from neuroimaging studies that show how mindfulness impacts the medial cortex as well as the insula and amygdala. Such studies furthermore depict changes in lateral frontal regions,

basal ganglia and the hippocampus. Theresa M. Glomb et. al. (2011) delineated a model of the mental and neurobiological processes by which mindfulness meditation improves self-regulation of thoughts, emotions, and behaviour. As previously noted, the mindfulness literature converges in identifying improved self-regulation as the central outcome of mindfulness. Glomb et al. (2011) explained how the basis of the diverse benefits of mindfulness lies in three core processes mental and neurobiological processes: Decoupling of Self from experiences and emotions; Decreased use of automatic mental process; Awareness of psychological regulation. The three processes which by Glob et al. (2011) described are summarized in the following sections:

a. **Decoupling of self from experiences, events and mental processes**, Heppner & Kernis (2007), (Hargus, Crane, Barnhofer, & Mark, 2010).
b. **Decrease Use of Automatic Mental Processes** (Segal, Williams, & Teasdale, 2012), (Csikszentmihalyi, 1997), (Bargh, 2013), (Siegel, 2010).
c. **Awareness of psychological Regulation** (Siegel, 2007), (Glomb et al., 2011).

Table 1 provides an overview of the secondary benefits of mindfulness as well as defining the central processes that are induced by the practice.

Benefit	Definition
Improved empathy	Empathy is the capacity to understand what another person is experiencing from within the other person´s perspective.
Improved response flexibility	Response flexibility is the ability to pause and think before responding to stimuli with physical or verbal action. (Glomb et al., 2011)
Improved affective regulation	Affect regulation is a set of processes that individuals use to manage emotions and their expressions to accomplish goals. (Bell CC & McBride DF, 2010)
Decreased rumination	Rumination is the focused attention on the symptoms of one's distress and its possible causes and consequences. (Broderick, 2005)
Increased working memory	Working memory is responsible for transient holding and processing of new and stored information. (Cowan, 2008)
Ethical decision making	Ethical decision-making refers to the evaluation and choice of alternatives on the basis of ethical principles. (Ruedy & Schweitzer, 2011)

Benefit	Definition
Increased self-determination and persistence	Self-determination and persistence refer to the processes by which a person chooses to behave in accord with his or hers underlying values and interests. (Evans, Baer, & Segerstrom, 2009)
Increased intentional focus	Refers to the ability to focus attention on stimuli that is relevant to the task in hand and filtering out distracting stimuli. (Joel Brockner, 1978)
Improved accuracy in affective forecasting	Affective forecasting refers to a person's ability to accurately predict their own emotional response to future events. (Emanuel, Updegraff, Kalmbach, & Ciesla, 2010)
Stress reduction	Stress is a feeling of strain and pressure. Excessive stress may lead to physical and psychological harm. (Goyal M et al., 2014)

Table 1: Overview of secondary benefits of mindfulness practice (definition of the affected process).

Preliminary results: Impact of mindfulness on project leadership

Now, after having explored some of the presumed benefits of mindfulness, let us hypothesize whether and how mindfulness could affect project success. Although numerous studies have been done regarding the effect of mindfulness on leaders (Sauer et al., 2012) none of them have focused on studying their effect on the separate competences that constitute the leaders proficiency. We will hence try to speculatively evaluate the potential effects that mindfulness training could have on each of the 15 leadership competencies as identified by Dulewicz and Higgs (2003).

Leadership dimension	Leadership Competency	Potential enhancement from mindfulness practice
Emotional leadership competences (EQ)	Self awareness	High
	Emotional resilience	High
	Intuitiveness	None
	Influence	Medium
	Motivation	Medium
	Conscientiousness	High
	Interpersonal sensitivity	High
Managerial competences (MQ)	Managing resources	Low
	Developing	Low
	Achieving	Medium
	Empowering	Low
	Engaging communication	High
Intellectual competences (IQ)	Vision and imagination	Medium
	Strategic perspective	Low
	Critical analysis and judgment	Medium

Table 2: The potential of using mindfulness to enhance leadership competences

If this is accurate, then mindfulness training might clearly enhance certain leadership competences. The potential impact of mindfulness training on project leadership competencies and project success is most likely to be anticipated in EQ competences. In particular, mindfulness training can prove highly valuable in developing self-awareness, conscientiousness, interpersonal sensitivity and motivation. Motivation, sensitivity and conscientiousness are competencies which have shown to be of particular importance for project success. The key project-success-related MQ competence of engaging communication could also improve significantly with mindfulness training and mindful practice. The affected competencies are all crucial for creating and maintaining positive and effective

interpersonal relationships and, therefore, we suggest that projects that require high level of interaction with stakeholders would be the ones most affected by the project manager's mindfulness.

6. Mindfulness training as integrated aspect of project leadership training

There are numerous project management associations and organizations worldwide that have created guidelines for basic project management. In order to be certified as a project manager by such associations, one is commonly required to showcase minimal knowledge of various subjects related to project management. The International Project Management Association (IPMA) provides such a guideline in the IPMA Competence Baseline (ICB). The ICB features information on 46 competence elements that are divided into 3 ranges; technical, contextual and behavioural. The behavioural range comprises 15 competence elements, most of which are among, or at least closely related, to the 15 competencies of Higgs and Dulewizch, such as; self-control, engagement & motivation, conflict & crisis and ethics. Since IPMA has acknowledged the importance of such competence elements for project managers, I suggest that methods for allowing project managers to cultivate these competence elements should be something project managers should be made aware of and even encouraged to study. As has been previously displayed in this thesis, there is an extensive and ever-expanding body of scientific research that supports the notion that important leadership competencies can be enhanced via mindfulness training. The general leadership and management literature is increasingly acknowledging the potential influence of mindfulness training. Furthermore, some of the world's leading organizations, such as Apple, Google, General Mills, Harvard University to name a few, have developed and implemented mindfulness training programs to develop leaders and to improve employee well-being (Tan et al., 2014).

The scientific and educational literature on project managers acknowledges the importance of certain behaviour and there are numerous well known books that on the "softer" (e.g. behaviour, personality, conflict) of project management and how these may be developed. However, in the context of these "soft" aspects, the scientific and educational literature for project managers seems to be largely unaware of mindfulness meditation and its potential benefits. Even though there are some project management focused sources that acknowledge mindfulness meditation as a possible source of enhanced emotional intelligence, none of them go into detail on exactly how it could possibly affect separate key competencies for project success. This is what I have however attempted with this thesis.

By teaching individuals, on their way to become project managers, about the science behind mindfulness and supplying them with basic mindfulness training, they might become interested it practicing it in their private and professional lives. Basic mindfulness training could for example be taught as part of leadership courses in project management programs in universities, or such programs could simply subsidize mindfulness-training courses outside

the organization. Project management associations could also offer members to take part in mindfulness training programs, etc.

7. Conclusion

Based on our preliminary analysis we can state that mindfulness might indeed be capable of greatly effecting project success. The analysing and comparing of scientific literature surrounding the core processes and secondary benefits of mindfulness with the literature on leadership competences as success factors in projects we can suggest that mindfulness training can be of potentially high significance in developing and enhancing self-awareness, interpersonal sensitivity, motivational and influential capabilities and the conscientiousness of individuals, all of which are correlated with project success. Furthermore, it might potentially (directly or indirectly) influence managerial competences, especially ones ability to efficiently engage in communication, a critical competence for project success.

We suggest that mindfulness meditation is something project managers should be encouraged to practice. It is a simple method that can be used supplementary alongside project leadership training. We also suggest that further research, on the potential of mindfulness training for project leaders, should be done in order to understand still further if and how such mindfulness training and practice can affect project success

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Agile Project Portfolio Management

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Abstract

In a fast changing and uncertain environment, agile and lean Project Management (PM) at operational level for a single project is important and yet controversial. PM focus is on effectiveness and not as much on efficiency. Classic PM was initially developed around mature stable organizations that had wrung much of the internal uncertainty out of their business but tolerated some waste and delays. Classical PM required full cycle of planning before execution with minimal changes and deviations. Non-classical project management, demanded by volatile and fast-cycle projects, requires efficiency in time and cost while allowing for innovations, continuing adjustments, and immature processes. The urgency of projects is partially driven by financial security, but it is also directly driven by the level of competition. Agile does not equal 'fast' in agile PM. However, speed is a multiplying factor of agility. Four dimensions drive the need for agile PM: internal uncertainty, external uncertainty, use of unique expertise, speed/urgency.

A project-based organizational approach that integrates business and project decision making is better suited to the agile PM environment. Agile PM views projects as a core part of the business, with dynamic boundaries which shift with the business needs. Leadership ambiguity is reduced by clearly defining and communicating the roles and responsibilities. Agility becomes critical at strategic level in portfolio management, as additional technique become plausible within and across projects. Agile project management cuts across organization boundaries to confront and constructively address complex interactions and interfaces. Portfolios span multiple internal organizations and some are partially or wholly outsourced. By integrating portfolio management and business decision-making, management focus should be on delivering results to solve business needs rather than staying within preset project boundaries. Product development process must be integrated into portfolio management to achieve and maintain business and portfolio management agility. In agile portfolio environment, portfolio management is an ongoing effort, often best managed by a portfolio manager rather than executive management.

It is critical to understand resource allocation in the agile-type environment so that resources can be efficiently shifted between projects, as necessary. Innovative companies of tomorrow continue to push the project management envelope. Being able to effectively define, plan, and execute projects in a dynamic and fast paced environment will be the difference between merely surviving and flourishing. In agile project environments, successful project management requires a shift of focus to the execution stage, because the inherent uncertainty of the environment places limits on how far into the future you can effectively plan your project.

Key words

Agility, Project Portfolio, Lean, Execution, Uncertainty, Business Decisions.

1. Introduction

Agility in concept, comprises two main factors. 1. Responding to change (anticipated or unexpected) in proper ways and due time. 2. Exploiting changes and taking advantage of them as opportunities. These necessitate a basic ability that is sensing, perceiving and anticipating changes in the business environment of the company.

Agile, in Webster dictionary, means quick, well-coordinated in movement, nimble or marked by an ability to think or move quickly, characterized by quickness, lightness, and ease of movement. Agile manufacturing was sometimes mixed up and confused with previous thought schools of operations management such as flexibility and lean, has been backed for having novel concepts beyond the former remedies.

Agile project management is a value-driven approach that allows Project Managers to deliver high-priority, high-quality work and look like rock stars to their customers and stakeholders. It is nothing like the plodding, costly and error-prone approach to project management, which has delivered inconsistent results for years.

The call for agility for the purpose enhancing competitiveness has traditionally been associated with the manufacture and supply of high technology industry products. It is also characterized by short life cycles, volatile and uncertain levels of demand and irregularity in supply. Nevertheless, traditional industries face similar challenges in terms of speed, flexibility, increased product diversity and customization.

In the project-oriented business, each project is unique in terms of design, resources, manufacturing and technological requirements. Its activities, precedence constraints, and processing times are highly uncertain. The high level of ambiguity, uncertainty, routings and processing times and customer orders, makes the project and production planning and control problem a difficult one (Babu, 1999).

Agile Project Management reduces complexity by breaking down the many-months-long cycle of building requirements for the whole project, building the entire product and then testing to find hundreds of product flaws. Instead small, usable segments of the product are specified, developed and tested in manageable, short duration cycles.

During a project there are many activities happening simultaneously, creating a lot of information that needs to be distributed and handled in real-time. Open information sharing is the key issue, and information transfer must be in real-time, not only inside the own enterprise but also between all the companies and partners in the supply chain (Iskanius, 2006). In such a business, typically several companies are involved in the supply, and visibility and collaboration are the key elements.

The mistake some teams make is they have success with one agile team and then add more projects and teams without preparing for the growth. Before they know it, they have a

hodgepodge of teams using their modular agile tools to manage their work. These tools do not speak the same language or roll up to a clear software portfolio vision. If you've already encountered this, you know scaling agile is not easy.

Product development teams are facing a quiet revolution in which both engineers and managers are struggling to adjust. In many industries like pharmaceuticals, software, automobiles, integrated circuits, customer demands for continuous innovation and plunging cost of experimentation are signaling a massive switch from anticipatory to adaptive styles of development. But engineers, project managers, and executives are still operating with anticipatory, prescriptive mindsets and processes.

2. Non-traditional Project Management

Modern project management, developed in the post–World War II era, was initially employed to manage large government projects for the military and construction and space industries. It has subsequently evolved and been widely adopted in some form by most large commercial companies. Nowadays, these same project management techniques are well on their way into many medium and small companies.

However, what works well for a huge government project is not the optimal solution for an innovative startup or a smaller entrepreneurial group within a large company. Those early projects had unique challenges, such as efficiently managing hundreds of sub-contractors, that project management addressed. The ability to meet challenges created the momentum that carried project management into the mainstream.

Many of these original characteristics are still present in today’s projects. But they mostly evolved along with business in general, and some changed radically. For the most part, the science of project management has kept pace with the evolution of business over the past few decades. However, in certain areas, project management has not evolved in step with business and therefore cannot effectively address its challenges.

A dramatic economic shift in business may be noticed with an increase in the number of small companies versus large companies. This shift was driven largely by the advent of the knowledge-based economy. At one time, only large companies with significant financial capital controlled the resources required to compete in business. Their resources were physical assets, such as buildings, material, and equipment.

As knowledge and intellectual property became increasingly more valuable assets, entrepreneurs with little financial capital but significant intellectual capital were able to start small businesses and carve out niches in this new market space. In their quest to grow and compete, smaller businesses are looking to PM as a possible competitive advantage. They realize that good PM adds tremendous value to their projects.

There are a few subtle points related to this change that are worth noting. First, the sponsors and managers of projects generally know that one-size project management does not fit all.

They look to tailor classic PM processes to their particular situation. Second, specialized and dedicated process development resources are required to develop, implement, and maintain robust project management processes. Third, these process development resources quickly dwindle as company size shrinks, yet this is where customized project management processes have perhaps the biggest impact.

Project management has become a more or less rote mechanical process because it has been proven to work effectively on more or less rote mechanical projects. However, when applied to the more creative, uncertain, and urgent projects, classic PM practices often falter and need assistance. It is in these situations where we will explore various new thinking that will supplement the current body of knowledge on project management and, hopefully, extend its effectiveness into agile environments.

Taking advantage of the new innovations and technologies is tricky. As exploration replace prescription, processes have to change. The manager dealing with hundreds of experiments rather than detailed, prescriptive plan, new project management ways are required. Even when these technologies and processes offer lower cost and higher performance than their predecessors, the transformation often proves difficult.

3. Agile Software Development

Agile is one of the big buzzwords of the IT development industry. Agile software development is a different way of managing IT development teams and projects. Agile system development is an alternative to traditional project management where emphasis is placed on empowering people to collaborate and make team decisions in addition to continuous planning, continuous testing and continuous integration.

Agile methodology helps teams respond to unpredictability through incremental, iterative work cadences, known as sprints. Agile methodologies are an alternative to waterfall, or traditional sequential development. The word agile in this context derives from the agile manifesto. It is the result of a gathering in 2001 on why the traditional approach to managing software development projects failed far too often.

It is generally accepted that the concept of agile project management has emerged from principles adopted by software developers, and particularly from the processes that underpin agile software development (Cockburn, 2001). The principles of agile software development are enshrined in the Agile Manifesto (www.agilealliance.org).

From my use of various agile methods, 10 key principles of agile, which are common characteristics to all agile methods, and the things that can make agile fundamentally different to a more traditional waterfall approach to software development. They are:

1. Active user involvement is imperative
2. The team must be empowered to make decisions
3. Requirements evolve but the timescale is fixed

4. Capture requirements at a high level; lightweight & visual
5. Develop small, incremental releases and iterate
6. Focus on frequent delivery of products
7. Complete each feature before moving on to the next
8. Apply the 80/20 rule
9. Testing is integrated throughout the project lifecycle – test early and often
10. Collaborative & cooperative approach between all stakeholders is essential

Software projects change constantly. Customers are expected to verify requirements before they can test-drive the prototypes, overhead and long delays often cripple the project. Agile Project Management is about embracing constant changes, even late in the development stage. It's about delivering features with the greatest business value first, and having the real-time information to tightly manage cost, time and scope.

Agile system software development is largely a grass-roots continuing movement that focuses on reliably delivering software products in a dynamic world. To date, much of the agile literature has focused on the engineering practices that support an agile philosophy, and thus the coverage of project management has been limited.

Agile processes are intended to support early and quick production of working code. This is accomplished by structuring the development process into iterations and gradual completion, where an iteration focuses on delivering working code and other artifacts that provide value to the customer and, secondarily, to the project.

All work should be evolutionary, even architecture development. Getting upfront architecture wrong in serial development usually means poor long-term adaptability because no one can stomach changing architecture late in a project. The balance must be kept between adapting to continuous changes and keeping budget and time.

4. Agile PM in Physical Projects

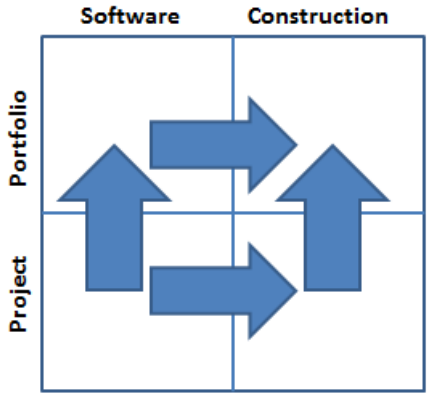
Agility has existed in Operations for decades both in the literature and in practice. It started from the lean movement in Japan and then in the West. Reducing inventories and wastes allow manufacturing managers to move quickly and flexibly towards new customers and products. Working closely with suppliers and customers helps agility.

Agility in software development means an iterative incremental approach, where a small working prototype is developed and constructed, allowing the users in experiment with the concept and provide feedback. Then, additional features may be added as the system is expanded. Thus, required changes are recognized and added.

The real agility test comes in project portfolios, where changes in one project may be compensated by alterations in other projects. The idea is to start with one project, and then

use the feedback and lessons to improve upon other projects. At the same time, if unplanned changes occur, the portfolio manager may re-arrange project priorities.

Picture below illustrate the changes of agility methodologies over time. Techniques are developed in software projects, which should be shifted to construction projects. Meanwhile, agility techniques in single projects should be expanded to portfolios. Eventually, a set of tools and techniques will be available for construction portfolios.



Physical projects, like building, roads and power-plants, are different from software and system development projects in a way that a working prototype may not be built initially and then additional features are added easily. But, there are some agility features which may be suited for physical projects, particularly physical portfolios:

a) Flexibility: allowing additional capacity and time slacks in case requirements are modified or increased; using multi-purpose equipment and contractors; delaying activities with likely changes; and foretelling and preparing changes.

b) Speed: performing concurrent activities; speed up work with trade-offs; using pre-made or half-made materials; using multiple work crews and contractors; starting with lengthy and critical path; and providing sufficient resources.

c) Response to change: preparing for changes; acclaiming changes; developing contingency plans; predicting changes; taking changes as opportunities for learning and development; monitoring leading indicators to expect changes.

d) Non-linear planning and execution: iterative planning and execution; making working model or prototype; leaving changeable and volatile parts to the end; allowing user involvement and feedback; practicing lean and as needed basis.

5. Strategic Agile Portfolio Management

Large companies have hundreds, if not thousands, of projects: some agile, some traditional; some using one agile method, some another agile method, some a hybrid of agile and traditional methods. Even when an organization has committed to a major agile transformation there will be a several-year transition period.

Executives need is a common framework for evaluating projects. A comprehensive framework should address the major executive concerns of investment and risk. Executives want to know the value of the project (ROI), and the uncertainty of obtaining that ROI. Executives don't really care whether a requirements document has been finished; they want to know about project progress, investment, and risk.

No matter what the project type, agile or otherwise, a governance mechanism can be created that addresses these two key project status attributes. Managing increasing uncertainty is best accomplished by agile, flexible practices, whereas managing complexity requires structure. The difficult projects are those with high uncertainty, requiring greater agility, and high complexity that requires additional structure. Finding project leaders who can handle both agility and structure is a challenge.

Agile development affects the power structure in an organization because it spreads out the decision-making authority. Executives make and take accountability for business-level decisions, deferring to the developers on technical issues such as development techniques and time estimates. The developers are then accountable for these issues. This decision-making approach differs from in many organizations.

In some, the programmers make many key decisions, including those pertaining to business, process, and systems requirements, while their managers either happily or reluctantly go along for the ride. In other organizations, programmers have limited decision-making authority, and they are treated as little more than clerical workers.

6. Closing and Conclusions

No matter how prescient a company, the future will always surprise us. For some products, changes in the market, technology, or specific requirements happen weekly. For others, the timeframe for incorporating changes varies from months to years. With the pace of change increasing and response time shrinking, the only way to survive is to strive for adaptability, a critical criterion for a development process.

In fact, in an agile project, technical excellence is measured by both the capacity to deliver customer value today and create an adaptable product for tomorrow. Agile technical practices focus on lowering technical debt (improving the ability to adapt) as an integral part of the development process. In an agile project, developers strive for technical excellence, and project leaders champion it.

The essence of this agile project movement, whether in new product development, new product or service offerings, software applications, or project management, rests on two foundational goals: delivering valuable products to customers and creating working environments in which people look forward to coming to work each day.

Innovation and new technology continues to drive economic success for countries, industries, and individual companies. Although the rates of innovation in technology in the last decade

may have declined from prodigious to merely lofty, innovation in areas such as biotechnology and nanotechnology are picking up any slack.

Project management needs to be transformed to move faster, better and cheaper, be more flexible, and be aggressively customer responsive. Agile Project Management answers this transformational needs. It brings together a set of principles, practices, and performance measures that enable project managers to catch up with the realities of modern product development. Detailed processes yet need to be developed.

Probably the most important addition is the new agile perspective on performance measurement. We ask teams to be agile, and then measure their performance by strict adherence to the Iron Triangle: scope, schedule, and budget. Agility proposes a new triangle: an agile triangle, that consists of value, quality, and constraints. To grow agile organizations, then performance measurement system must encourage agility.

Agile project management continuously evaluates time, quality and cost as primary constraints. Rapid feedback, continuous adaptation and QA are built in to the teams committed schedules, ensuring top-quality output. Agile Project Managers look at proactive, real-time delivery metrics such as velocity and cumulative flow versus frequently out-of-date Gantt charts, spreadsheets and impossible project milestones.

The net result is fewer costly end-of-project surprises, and the working product is delivered quicker. One of the critical job functions of a Project Manager is to meet project objectives while creating a consistent formula for least-cost, best-ROI processes. Agile project management with scrum tools make this easy and repeatable for multiple projects and teams, even when they are in different physical locations.

By centrally managing all requirements, requests, tasks, tests and defects into a real-time tool, Agile Project Managers can streamline cross-team collaboration and decision making while eliminating waste and giving executives and auditors the numbers they need. Exactly when they need them, cutting down on wastes.

Four broad topics are covered in Agile Project Management: opportunity, values, frameworks, and practices. The opportunity lies in creating innovative products and services: things that are new, different, creative, and match customer requirements. These are products that can't be defined completely in the beginning but evolve over time through experimentation, exploration, and adaptation, as the project progresses.

Its values focus helps create products that deliver customer value today and are also responsive to future customer needs. The frameworks, both enterprise and project, assist teams in delivering results reliably, even with constant change, uncertainty, and ambiguity. The practices, from developing a product vision to participatory decision making, provide actionable ways in which teams deliver results.

A traditional project manager focuses on following the plan with minimal changes, whereas an agile leader focuses on adapting successfully to inevitable changes. Thus, "Agility is the

ability to both create and respond to change in order to profit in a turbulent business environment. It is the ability to balance flexibility and stability".

In an uncertain and turbulent project world, success belongs to companies that have the capacity to create change, and maybe even chaos, for their competitors. Creating change disrupts competitors (and the entire market ecosystem), responding to change guards against competitive thrusts. Creating change requires innovation: developing new products, creating new sales channels, or reducing product development time.

Traditional project managers tend to focus on requirements as the definition of scope, and then concentrate on delivering those requirements. Agile project leaders focus on delivering value and are constantly asking questions about whether different renditions of scope are worth the value they deliver. Traditional teams also focus on delivering to scope, schedule, and cost constraints.

The traditional rationale goes that development teams have no control over outcomes or value, thus are not accountable for them. As a development team is divorced from outcomes, and fixated on the requirements, which change as projects progress. They are deemed a critical piece of performance measurement. As focused on outcomes, even over which teams have minimal control, they deliver true business value.

The agile principle "Delivering Value over Meeting Constraints" provides a focus for rethinking how to measure performance on projects. Although constraints such as cost and time are important, they should be secondary to creating value for the end customers. All too often, we focus on what is easily measurable and ignore really important characteristics that are harder to quantify such as final customer values.

Agile development attempts to change the bias of internal focus, and thus focus on the most important things, and speedy value to the customer is at the top of that list. In addition, the company must be able to respond quickly to both anticipated and unanticipated changes created by your competitors and customers.

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Workshop report Theme 3
Classical vs. non-classical project management

Moderation and Report: John Hermarij

1. Goal

Develop recommendations for the participants of the Zurich Expert Seminar on:

- The application of the systems approach.
- The application of mindfulness.
- Agile PPM.
- The development of an automated project manager.

The following participants joined the session:

Sonja Armatowski (Germany), Eva Aue (Germany), Kadir Bedir (Turkey), Daniel Baumann (Switzerland), Camilla Borrestad (Norway), Sofus Clemmensen (Denmark), Michael Flynn (Switzerland), Paul Gardiner (France), Rüdiger Geist (Switzerland), John Hermarij (Netherlands), Helga Iarusdottir (Iceland), Inga Klaus (Poland), Mark Langdon (United Kingdom), Andreas Nachbagauer (Austria), Grazyna Rzymkowska (Poland), Yasser Salem (Switzerland), Yvonne Schoper (Germany), Mehran Sepehri (Iran), Oliver Sifig (Switzerland)

2. Procedure

Next to the recommendations that we developed we aimed for a learning experience. Each individual is learner and teacher in one. We took an agile process of four twenty minute sprints, with a clear deliverable at each stage. After the seconds sprint we did a five-minute retrospective in order to improve the process.

1. Generate ideas.
2. Select ideas.
3. Refine ideas.
4. Make a summary.

After this each group rehearsed the presentation for the plenary session.

In order to maximize the learning experiences for the participant they rotated after every sprint, leaving one behind that had the responsibility to transfer the findings of the previous sprint to the newcomers.

It was a lively and energetic process; during the workshop other participants joined the discussions.

3. Recommendations

3.1 Systems Approach

The following is needed to reach a systemic and holistic approach:

a) Acceptance of diversity.

b) Avoidance of blaming.

c) Mediation in solution finding (win-win).

d) Acceptance of complexity and simplification.

e) Regard failure also as an opportunity.

f) Attitude over tools.

g) Build synergies.

h) Decide over the collection of information.

3.2 Mindfulness

To maintain mindful and focused project management you need a feedback process in the team, either on regular basis or triggered by anyone in the team to generate a calm and effective project.

3.3 Agile PPM

Given the large amount of uncertainty and no clear picture about the outcomes you need a flexible approach with partial deliveries.

React fast in the right direction.

Keep in mind the existing bottle necks.

3.4 Automated PM

This topic was the most challenging. We came up with the following statements:

- PM cannot be (completely) automated (i.e. replaced by a robot).
- IT can always support PM by managing complexity for us.
- PM needs to provide inputs and check outputs

Humans will always be involved in:
  - Decision making
  - Team development like motivating and complimenting
  - Ethical issues

- The automated project manager could help us in specific areas:
  - Creating probability models (foresight)
  - Decision making
  - Simulation models
- We need to simplify project management before automating.
- It could be helpful in standard projects.

Strategic Project Management

Mladen Vukomanović

Abstract

Contextual aspects of individuals working in project, programme and portfolio (3P) environments have gained importance over the technical ones, i.e. tools and procedures. Although the 3P execution efficiency and effectiveness is critical to the success, the way the 3Ps are related to its context, i.e. facilitate business transformation, continuous improvement, organizational change, value creation and strategy implementation; is crucial for achieving the long term goals of an organization. The current research shows that the top performing organizations are the ones willing to pursue standardization, talent management and strategic alignment. Therefore organizations need to understand how to run projects, programmes and portfolios towards fulfilment of their desired strategies. This paper shows how to communicate strategic goals throughout the organization, develop key performance indicators on different levels and thus manage strategic performance from the perspectives of programmes and projects. At the end the paper brings success factors for implementing the framework. The paper also explains how IPMA Individual Competence Baseline, version 4.0 supports such an approach. However the paper also highlights the scarcity of the individual competences published for supporting such a system and calls for further research to change the mind-sets of employees and shift the paradigm from the traditional 3P management into the strategic one.

Keywords

Strategy, project, programme, performance management, KPI

1. Introduction

Nowadays projects can be identified in all sectors of human activity. Current research shows that more than one third of the World's GDP belongs to projects (Eskerod and Huemann 2013) and that the ability to successfully execute projects is the one of the critical success factors which drive the realization of intended benefits of an organization. However, even good practices of project management (PM) do not perform as well as the owner desired (Gartner 2012). Thus in order to survive, organizations are confronted with the constant need for improvement of their PM competences. However, a typical project management (PM) approach meets or even exceeds the quality standards of an organization 93% of the time; delivers within the project's scope 92% of the time; and results in meeting or exceeding the projected business benefits of the project 89% of the time (PWC 2012). Furthermore, regular use of PM models and methodologies positively influences business results (Ahn 2001; Hoque and James 2000; Malina and Selto 2004; Sandt et al. 2001; Vukomanovic et al. 2012). Therefore the high performing organizations effectively employ PM practices as tools of

driving the positive change (Kerzner 2009). Therefore it is the imperative of today's organizations to try to shift focus from their business as usual to a project orientation and perceive competences in PM as part of their competitive advantage strategy (Reiss 2013).

Given the strategic impact that PM has, organizations ought to follow effective PM processes that capitalize on innovation; measure progress, value, and risks; and confirm that the right projects can be delivered in alignment with organizational strategy. In 2013, PWC (PWC 2012) issued "The Third Global Survey" on the current state of PM in 34 industries, across 38 countries. The research showed and validated the following main points:

- There is a link between higher maturity levels of attaining business/ organizational results and high project performance
- Senior management that supports PM-driven key initiatives achieves stronger business results
- PM is critical to 97% organizations in relation to business performance and strategic success
- 94% agreed that PM enables business growth
- With increased alignment of projects with business strategy, organizations can expect greater project portfolio impact on business success

Although the benefits bringing PM practices close with the strategic management initiatives are evident, only 5% of employees understand the company's strategy, only 25% of project, programme or portfolio managers have initiatives closely tied to strategic priorities, only 40% of organizations link their budgets with strategy, and less than 15% of project teams spend even less than 1 hour on discussions about strategy PricewaterhouseCoopers 2012 (Kaplan and Lamotte 2001; Kaplan and Norton 2006; 2008; Lamotte and Carter 2000).

Nowadays the development of PM discipline shifts from the technical project perspective (tools and methods) towards the strategic context. Only applying the proper PM tools and methods, without linking them with organizational strategic goals can lead to contra beneficial results. However, linking PM and strategy have led to questions like: How are we doing business on project level?, How are our projects performing on organizational scale?, Are we investing in the right project?, What benefits are we gaining through project? etc. which have helped the discipline of performance management (PMM) to emerge during the last two decades (Sharif 2002). PMM is defined as: the use of measurement results in initiatives (e.g. projects and programmes) in order to: achieve positive change in the organizational culture, business systems and processes; set agreed targets; allocate and rank resources; inform management about the need to change strategic objectives and to exchange performance results in order to stimulate continuous improvement of the system (Bassioni et al. 2008; Kerzner 2009). Practice has shown that regular use of performance management (PMM) models, i.e.: EFQM Excellence model (EFQM) and the Balanced Scorecard (BSC), positively influences both project and organizational results (Ahn 2001; Bauer et al. 2004; de Waal 2003; Hoque and James 2000; Malina and Selto 2004; McCabe 2001; Sandt et al.

2001). As soon as Kaplan and Norton (1992) introduced BSC, it became a hit and showed its advantages over the other PMM models. This was especially evident in the high strategic focus and the communication of strategic objectives throughout the organization into the project environments. PMM systems therefore are the glue which binds strategy and vision closely with the projects and the successful results and benefits they achieve. Thus projects, programmes and portfolios should be perceived and run as vehicles of achieving organization long term goals.

The aim of this paper is to explain how projects and programmes are vital parts of managing a strategy. This paper will elaborate the current developments of the PM and its way towards strategic management. It will also present a conceptual framework for managing programmes and projects within a strategic context and explain the limitations of controlling such a system. It will also reflect on how an individual needs to understand how to operate in a strategic oriented environment and thus lead projects, programmes and portfolios towards fulfilment of the desired strategy. At the end the paper conclude with the remarks on how to use the framework in order to turn you current PM into a strategic one.

2. How do project management competences relate to strategy?

Project management competence and high competent project professionals contribute to strong economies and organizations (Crawford et al (2013)). The concept of competence remains one of the most diffuse terms in the organizational and occupational literature (Robotham and Jubb 1996). Both researchers and practitioners in the field have been showing increasing interest in managerial competence models. The simple meaning of the word ‘competence’ is the ability to do something well or successfully (Gale 2007). However, more accurately it is defined as an underlying characteristic of a person in that it may be a motive, trait, skill, aspect of one’s self-image or social role or a body of knowledge which he or she uses. IPMA defines competence as the application of knowledge, skills and abilities in order to achieve the desired results” (IPMA 2006).

The global standard on project management competences IPMA Individual Competence Baseline version 4.0 (ICB4) (IPMA 2015) is represented by three competence areas: People, practice and perspective which are applied differently on projects, programmes and portfolios. ICB4 does not detail the competences required for specific roles (e.g., project manager or risk specialist), but rather in terms of the 3PM domain. The new ICB 4.0 structure is supported by research which suggests that, although the project execution efficiency and effectiveness is critical to project success, the way the project is related to its context (Morris et al. 2006), i.e. strategy, structures and process, external environment etc. and personal and inter-personal related soft factors are critical to the successful project outcome (Cooke-Davies in Crawford 2000; Flyvbjerg et al. 2003; Miller et al. 2001; Morris 2001; Morris and Pinto 2004).

The ICB4 starts with the perspective competence elements which describe how individuals interact with the environment, as well as the rationale that lead people, organizations and societies to start and support these initiatives. Maybe what is even more notable for the importance of the strategy is that the group starts with the strategy competence. This first competence element describes how strategies are understood and transformed into manageable elements using project, programmes and portfolios. This competence is also defining a performance management system in which projects are controlled and managed, and aligned with vision and the strategy. Furthermore, the strategy competence describes the formal justification of the project goals as well as the realization of benefits for the organization's long-term goals. This encompasses the discipline of strategic performance management in which an organization breaks up its strategic goals into manageable elements in order to:

- achieve beneficial changes in the organizational culture, business systems and processes
- establish and pursue agreed strategic targets
- allocate and rank resources
- inform management of the need to change strategic objectives
- stimulate continuous improvement

The strategy competence also includes the process of understanding the organizational environment, developing the desired state of benefits and making the right selection of projects and/or programmes within a portfolio. Strategy alignment should therefore convey the organization's vision and strategy into project goals or programme benefits. Thus the individual working in projects, programmes and portfolios is expected understand and if needed, set a performance management system critical success factors (CSFs) and key performance indicators (KPIs). Hence, each project and programme should be controlled through a set of CSFs and KPIs to assure the sustainability of an organization.

3. Different types of performance management systems

The practice showed that regular use of PMM positively influences business results (Ahn 2001; Bauer et al. 2004; de Waal 2003; Hoque and James 2000; Malina and Selto 2004; Sandt et al. 2001). Maybe the mostly used PMM fall within the groups of performance management models: Key Performance Indicator (KPI) based models, the Balanced Scorecard (BSC) based models and TQM based models (Robinson et al. 2004; Vukomanovic and Radujkovic 2013). The KPI models are usually prescribed by the management, or in some cases by governments and are used to monitor and control performance, promote its merits, and conduct benchmarking.

The BSC models can be found in various forms, but put balance between financial and non-financial indicators and measure critical activities and processes in order to control

implementation of a business strategy (Kagioglou et al. 2001). The balance can be found in short-term and long-term objectives, as well as in quantitative and qualitative measures. The model also supplements traditionally criticized financial indicators with the indicators from other three perspectives: Investor/Shareholders, Clients, Internal processes and Learning and innovation. (Kaplan and Norton 2006). (The Harvard Business Review at the end of the millennium declared BSC as "the most influential management idea in the past 75 years" (Niven 2006).

The TQM models mostly lean on the excellence principle and best practices. The main representatives can be found in Japan (in form of the Deming Prize), in the U.S. (in form of the Malcolm Baldrige National Quality Award) and in Europe (in form of the EFQM Award). All of them are based on the TQM principles which are used to assess excellence of an organization excellence, by identifying deviations of performance and benchmarking against the best practices and generating the stimulus in form improving activities (Vukomanovic et al. 2014). The performance management models have received lot of praise and have gained popularity over the years across different industries. E.g. in the construction industry of the UK, Robinson (2004) observed 100 companies and 70 top consultants in the UK and has found that: more than 50% uses EFQM or BSC, 26.4% uses different KPI models and only 22.8% companies do not use any of these models. The popularity of the BSC can also be seen in the fact that circa 60% of The Fortune's TOP 1000 companies today use BSC (Niven 2006).

4. How to control performance of a strategic management system?

For an effective performance management system, whether working in projects, programmes or portfolios, an individual also needs to understand how to define measures and set goals, and how to control their achievement. There are three main management control system: diagnostic, interactive and strategic control systems. The characteristics of the diagnostic control systems (DC) are: measurement of the output from projects/programmes/portfolios, setting the goals for future assessments and correcting deviations. DC is a top-down system and is also known as the auto pilot, since organizations can use them to manage by exceptions (action is needed only if significant deviations have occurred).

The characteristics of the interactive control (IC) are: identifying strategic uncertainties, accepting feedback from operational managers and accepting frequent and regular feedback from managers at all levels. The output generated from these systems is afterwards used for the strategic alignment and/or fine tuning. As opposed to DC (top-down approach), IC represents bottom-up approach, where the need for strategic alignment arises from the lower levels in the organizations – mostly projects. Since these systems require a large amount of management time and energy and they can be applied only to a few areas (Simons 2000).

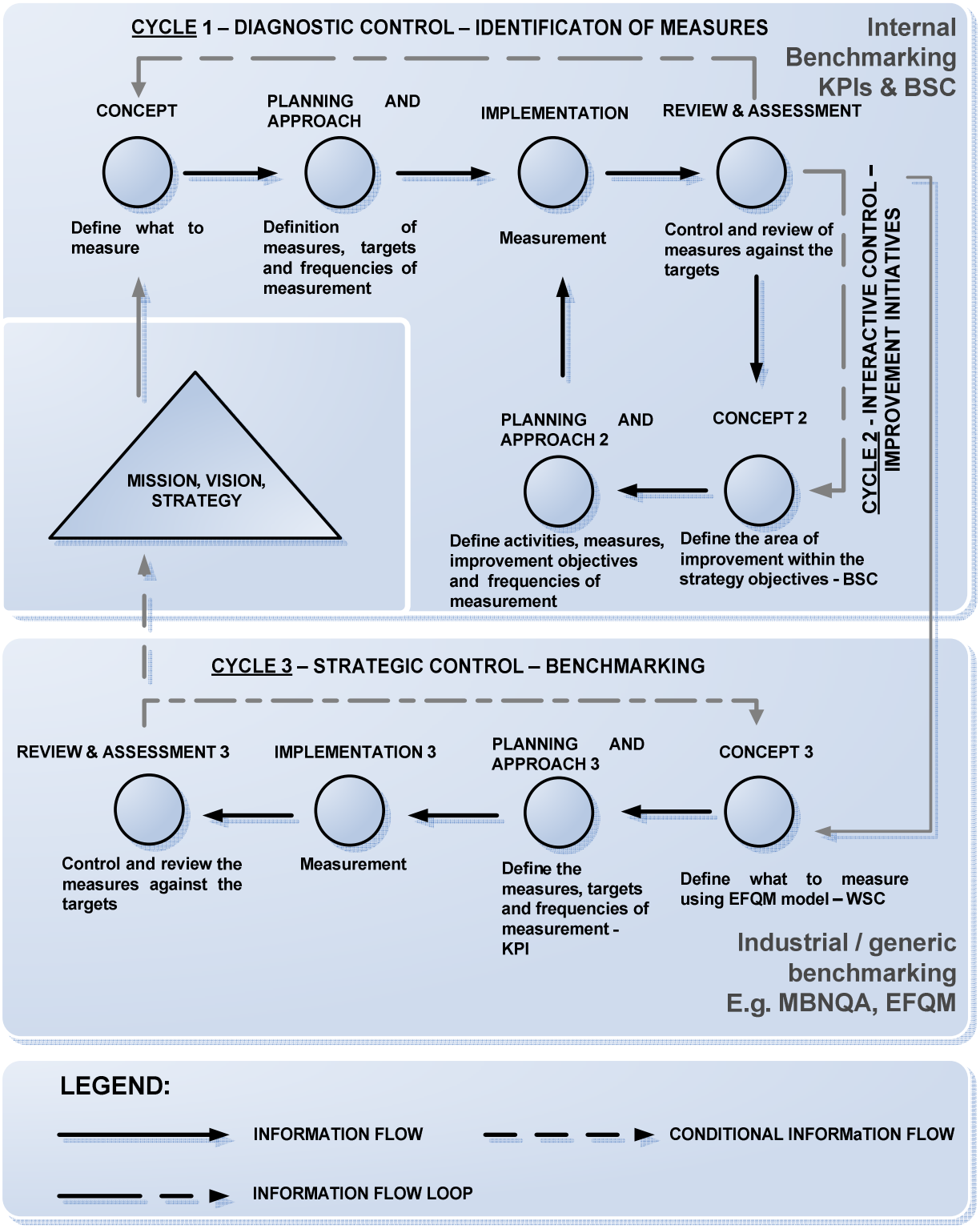

Figure 1: The 3 cycles of the monitoring and control process

The strategic control (SC) is the most advanced system, since it constantly re-examines and reformulates the strategy and can change with competitive environment. Main characteristics are: informing management about the changes in the competitive surroundings, defining future opportunities, balancing between profits and investments, setting new and stretched objectives; and constantly improving performance. Companies that implement SC are often described in the literature as High Performance Organizations (HPO) and are better in winning the globally recognized excellence awards (de Waal 2008).

The figure 1 shows how the three control management systems interact in a complete performance management system. The first cycle employs basic diagnostic control, which involves identification of CSFs and KPIs from the strategy (see Concept and Planning and Approach on figure 1). After the initial measurement (see Implementation on figure 1), the system controls if the planned values have been met (see Review and Assessment on figure 1). If they have, the system sets new stretched goals, and if not, it tries to minimize the deviation in forthcoming measurements.

The second cycle enables interactive control by adding two additional components (see Concept 2 and Planning and approach 2 on Figure 1) to the steps 3 and 4 from the first cycle (see Implementation and Review & Assessment on Figure 1). In Concept 2, companies re-question strategic objectives and identify strategic uncertainties. If the areas of improvement have been met, new and improved targets for organization development (see Planning and approach 2 on Figure 1) are set (see Implementation) and controlled (Review & Assessment). The first two cycles can be conducted by employing KPI and/or BSC based models.

In the third cycle, CSFs are reviewed and reassessed in respect with periodical benchmarking scores. Thus, strategic objectives are externally re-evaluated and, if needed, aligned with the environment. This cycle is optional and depends of deviations between the best practice identified by measuring against various excellence models (e.g. MBNQA, EFQM etc.) and performance of observed company.

5. Cascading the strategy onto the project level

The concept of a strategic performance management system is presented at the figure 3. It shows how performance management systems should balance between inner (the right hand side) and outer performance (the left hand side). Thus, one the one side an organization uses KPIs and BSC to identify strategic priorities; communicate the strategy throughout the organization thorough lower level BSCs; enable diagnostic control by pressuring strategic objectives on to the lower levels; enable interactive control by discovering new initiatives at the lower levels and control if strategy has been achieving strategic goals. On the other side, an excellence benchmarking model (e.g. EFQM, but also could be Malcolm Baldridge National Quality Award or IPMA Delta) is used to check if the strategic priorities were aligned with the environment by: conducting benchmarking; identifying the best practice and finding the areas of improvement. In all together, both sides of the model are important in

order to achieve strategic control of performance. Just focusing on strategic performance without external benchmarking could easily turn an organization to focus on lagging measures of performance.

The pyramid on the figure 2 implies that each of the hierarchy levels should have their own BSCs developed and KPI cascaded from the higher level instances (figure 3, the vertical cascade arrow). The cascade implies that each lower level manager needs to contribute to the higher level objectives. Thus each of the lower level KPIs and Balanced Scorecards fits into a cascade of the higher strategy dependent goals. In this way the management cascades the strategic initiatives onto the lover levels all the way until the project level where the measures turn into operations.

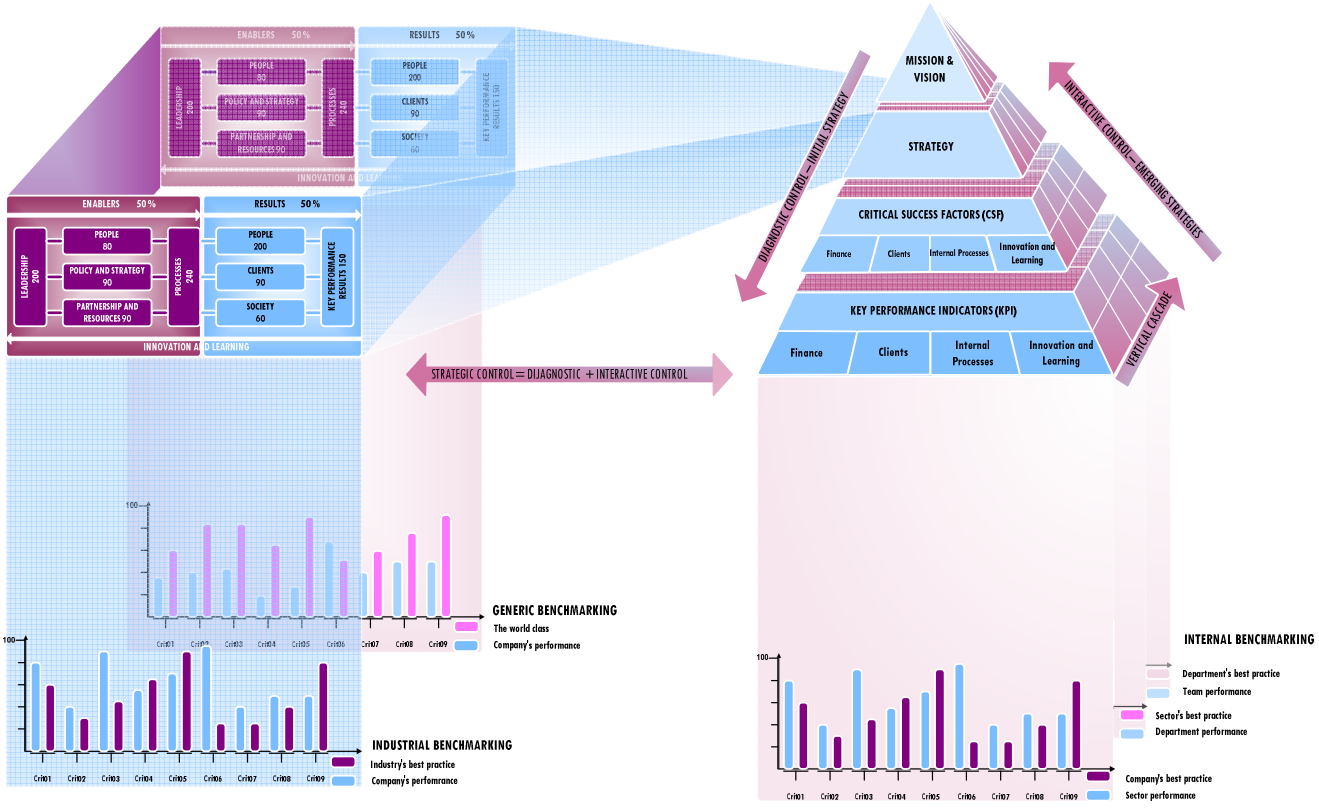

Figure 2: The two sides of the Performance Management Framework using EFQM and the Balanced Scorecard model

In order to understand fully the potential of the cascade, each management needs to questions the following questions before implementing one:

- Is the organization capable of identifying a clear line of goals which connects the strategy with the project level objectives?
- Do the project level employees understand on how they contribute and accomplish the organizational strategy and thus achieve benefits for the organization

- Would the middle level management understand the same?
- Can anyone, bellow the board level management, understand what the long term goals of the organizational are?

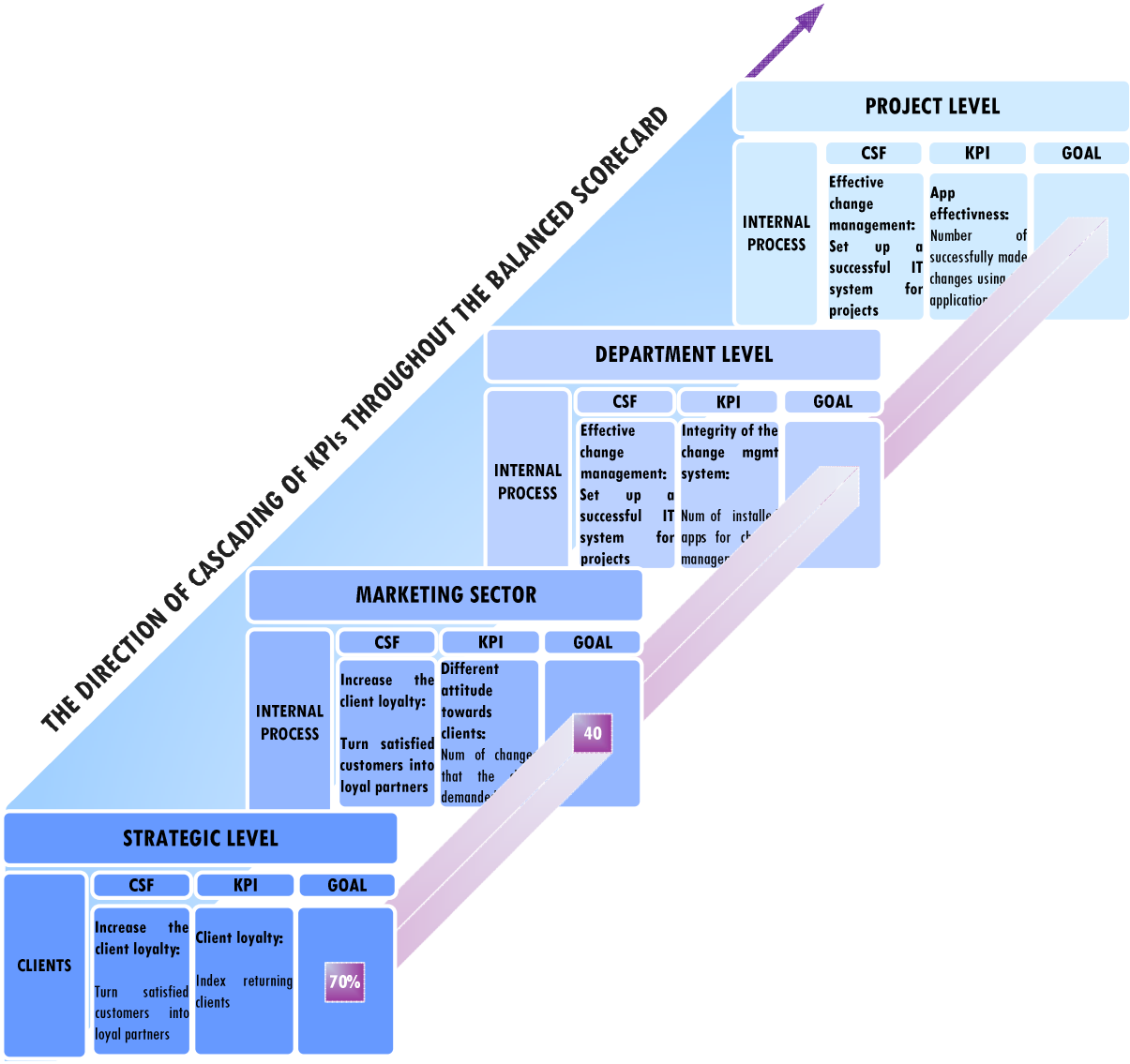

Figure 3: Cascading the KPIs through the organization using BSC

Unfortunately, in most of the cases the answers to the aforementioned questions is negative. Just knowing that the management board has or is about to have a BSC will not help the lower level managers in understanding their role and how they contribute to the strategy. The cascade is the tool which communicates the higher level objectives onto the lover level instances and explains what each initiative/programme/projects needs to accomplish in order to move the organization towards the future planned state. The figure 3 shows the cascade of the BSC across the four levels of an organization. The highest level (the management board)

serves as the starting point in the deductive dissolution of the higher goals onto the lower components. The next sector level focuses only on the higher goals which influence or are influenced by their remit and accordingly develops their own KPIs. The same happens for programmes/departments and finally for project levels.

Once the organization has accepted the importance of the strategy, it can begin with the cascade. In this step the biggest risk can be identified on managers controlling the trespassing of the higher level objectives on to the lower level employees which need to develop the novel and innovative objectives, set new goals in order to accomplish the higher level ones. Sometimes the objectives can be exact the same as the higher level ones, but with different goals. E.g. the financial goals often are just cut down to lower level financials. However, the high level goals like client loyalty (see figure 4) are hardly repeated on the lower levels and need further development. The figure 4 show how the highest level KPI called “Client loyalty” indicator is connected with the strategic goal (or CSF) called “Increase the client loyalty”. On the strategic level it is clear that the board members wants to increase the loyalty by enforcing change in relationship with clients throughout the organization (e.g. changes in the project deliverables and/or requirements as the client desired). As shown on the figure 4, the management has set 70% of increase in the client loyalty and the marketing sector discovered that this could be possible when 40% of changes that the client demanded have been successfully implemented. In this way the first step of the cascade is accomplished. Furthermore, the marketing sector level employees will become more attached to the strategy as their work will now directly influence the fulfilment of the strategy.

Depending of the organization structure, the next level would be to form a BSC on the department/group/programme level. This level would also need to focus just on the higher level objectives which are influenced or a influencing higher goals. The figure 4 shows how the department level develops a new measure called: “Number of successfully installed applications for requirement change management” and sets the goal to 120, with the purpose to effectively support the changes in projects. This steps shows how the goal of 120 is now directly linked to 40% of increase of client demands and 70% of client loyalty.

The next level of cascade is the project level BSC where it links to the measure called: “Number of successfully made changes using the application” with the goal of 90%). At the end of the day the project level mangers measures the number of successfully executed changes according to requirements changes made by the client and signalized through the IT application. In this example the project management practice is enriched with a strategic component which enables organization to measure it strategic performance through projects, this practicing strategic project management.

Depending on the size of the company it is possible to develop more than tens of BSCs on different levels. However, it is important not the replicate the goals and objectives, but to focus on how each lower level BSC achieves the higher level goals and how it measure their achievement. The cascade therefore helps organization to interactively force its employees to focus on the strategy and have innovative approaches when developing their own measures of strategic control. In this way the cascade becomes the catalyst of the interactive control.

The benefits and importance of the cascade is unquestionable. In more than 60% of the companies that had implemented BSC, concluded that the cascade has the highest influence on the success of strategy implementation (Kaplan and Norton 2004).

6. Conclusions

How can companies control the performance of their strategies by looking from the project level? How can organization make every project/programme part of their strategy?

In order to answer these questions, this paper describes a performance management framework for connection strategy with projects and enabling strategic project management. If practiced right, it can enable organizations to: conduct benchmarking (both, internally amongst projects and externally with competitors), select the most efficient KPIs per strategic objective and disseminate KPIs until the project level.

In order for the model to succeed, the following critical success factors needs to be fulfilled:

1. Vision and strategy should serve as input for the system
2. The strategy should be mapped in the four perspectives of BSC
3. Strategic objectives have to be aligned with the environment (EFQM benchmarking)
4. Every strategic objective (i.e. CSF) ought to have at least one KPI assigned
5. KPIs have to be cascaded down on to lower management levels
6. Besides diagnostic control, management should select areas that will be controlled interactively
7. Organizational performance has to be periodically benchmarked and strategy re-evaluated and realigned with best practice

The cascade should not end on the project level, but should continue in developing personal BSC where each of the project level employees would identify his or her own goals with the long term goals of the organization. These personal development plans should therefore reflect how each project team member would relate his or her own career path with the one of the organization. But what is the best path for an organization to change the mind-sets of their people and shift the paradigm from the traditional 3P management into the strategic one?

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Closing the gap between strategic intent and project implementation

Reinhard Wagner

Abstract

Strategies are implemented through projects. In reality, however, there is a large gap between the strategic intent and project implementation. To overcome this gap is one of the main tasks of the leadership in organisations and the basis for a sustainable development path. This article elaborates on how to close the gap.

Key words

Strategy, project, programme, project portfolio, IPMA OCB®, IPMA ICB®

1. Introduction

The project management discipline has focused mainly on the methodology since the 1950s, so as to design the management of a single project to achieve desired results within specified deadlines and budgets as efficiently as possible. The strategic perspective is too often lost, the perspective that determines the purpose of a project and how the project fits into the overall context of an organisation. Through a variety of challenges in recent years, the strategic perspective is now becoming increasingly at the centre of considerations.

In particular, the increase in the number and importance of the projects and scarce resources support the understanding that a better connection between the strategy and projects is needed. Scarce resources, for example, require the selection and prioritization of projects. The criteria for this purpose can be ideally derived from the strategy. In addition to the efficiency of projects the effectiveness and sustainability are coming more and more into focus. The strategy provides orientation here and an evaluation scale. For the sustainable implementation of the strategic intent and the development of an organisation project-related competences are needed, which go far beyond the methodology of known project management. Project managers are entrepreneurs who can organise their projects strategically and operationally implement in a complex environment. Here, in addition to the project management competences, people-oriented competences (“soft skills”) and experience in changing the organisational setting towards the strategic intent play an important role.

What should be done to close the gap between strategic intent and project implementation? There are many possible solutions. One solution is certainly the implementation of portfolio management. However, programme management and a better alignment between project management approaches and strategy could also be considered to overcome the gap.

Also at the organisational level, a better integration of strategy and project work can be achieved, for example by setting up a Project Management Office (PMO) or a centralised Enterprise Project Management Office (EPMO). The International Project Management Association provides through two of its global standards, the IPMA Organisational Competence Baseline (IPMA OCB®) and the IPMA Individual Competence Baseline (IPMA ICB®), guidance on what an organisation should consider in closing the gap.

2. The situation and some of the causes

Strategy is a multidimensional concept, which essentially means "leadership". It can be interpreted as a long-term orientation of actions towards strategic objectives from a military perspective or in the corporate practice as a holistic concept for achieving the long-term survival of the corporation in a competitive environment with all the opportunities and threats associated with. Strategic management can be understood as a "goal-oriented design with strategic, i.e. long-term, global, environmental and development-oriented approaches. It covers design and mutual coordination of planning, monitoring, information, organisation, corporate culture and strategic performance potentials." [Bea/Haas 2005] For this design, there are a lot of different approaches available [Mintzberg 2007]. The author proposed a relatively simple procedure to be performed in seven steps, which describes in seven steps how to develop a strategy and link it with the implementation of projects [Wagner 2015]. Figure 1 shows the result of the strategy development and the potential gap between the strategic intent and its implementation through projects and programmes.

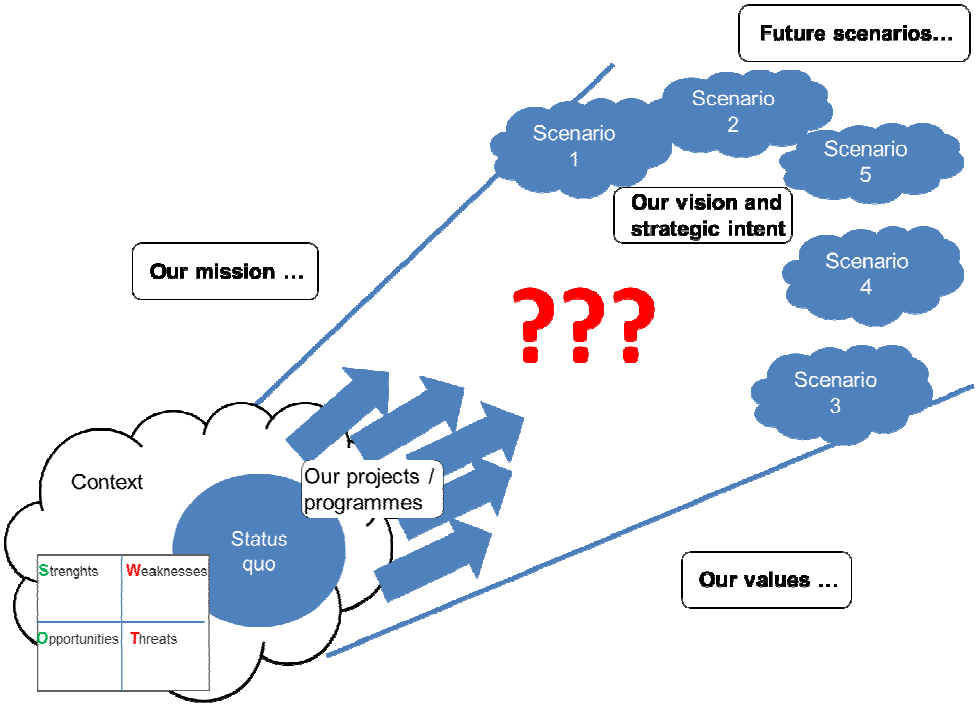

Figure 1: Gap between strategic intent and project implementation

Thus, it becomes clear that the formulation of projects with their respective targets cannot be separated from the strategic orientation of the organisation. Both are closely interlinked.

In many cases, the process follows a top-down approach: Following the development of a vision and a comprehensive mission statement, a strategy analysis of the current situation of the organisation will be carried out. Based on the results of the analysis, the strategy can be developed and planned. This ultimately serves as the basis for the formulation of projects and programmes with their objectives. Ideally, this approach is supplemented by information from current projects and programmes, i.e. "bottom-up". This "emergent" strategy development could help top management to align the rather theoretical strategy with the “real life” seen through the eyes of projects and programmes. All the steps can be performed as projects or programmes. This applies especially to the strategy implementation. In practice, we observe many challenges in this process. Figure 2 illustrates the interrelationship and these challenges.

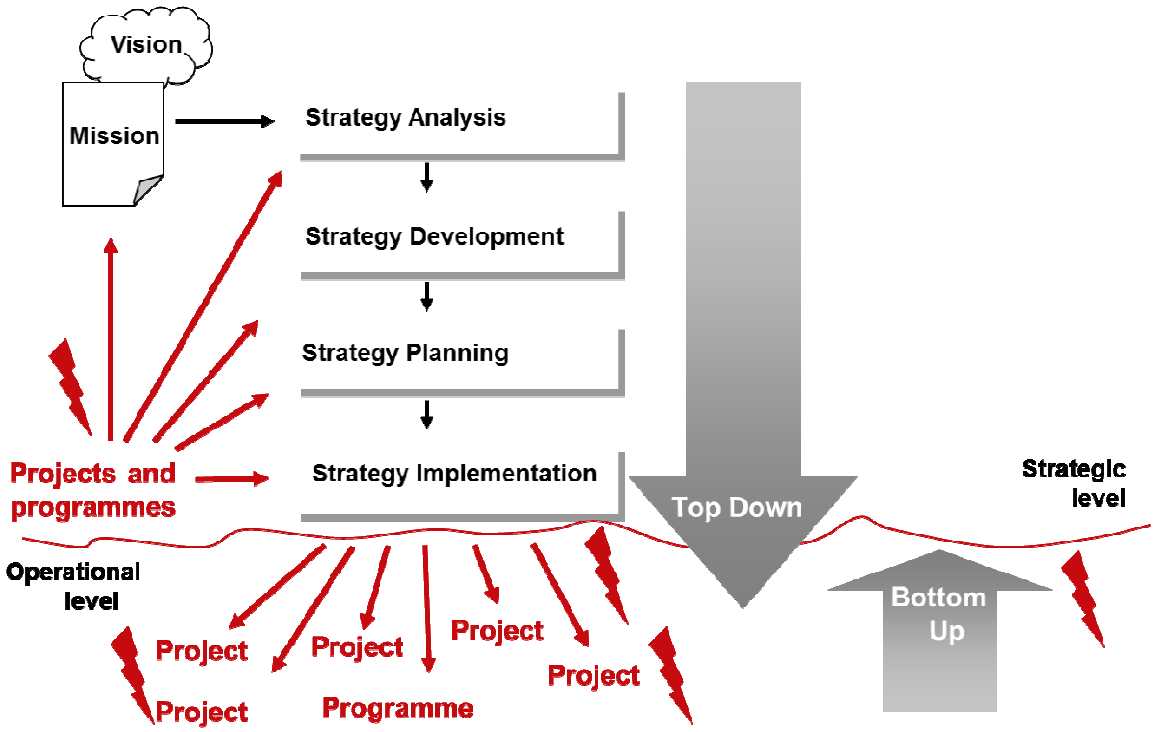

Figure 2: Top-down and bottom-up processes with various difficulties

The strategy is not only important for the formulation of individual projects, but also for developing a strategy for projects and project management. A study of the GPM German Project Management Association in cooperation with the European Business School has revealed in 2012 that organisations with a clear strategy for projects and project management have a competitive edge and can handle their projects more successfully. A clear majority of

the surveyed top executives indicates that clear strategic provision for projects and project management are given in the company. 82% of these organisations derive objectives for projects and project management directly from the organisational strategy, 77% confirm that they align all project management activities to the strategy [Gleich et al 2012].

The IPMA Organisational Competence Baseline (IPMA OCB®) confirms this and formulated the related competence as follows: "The long-term development of an organisation's competence in managing projects should be directed by its project, programme & portfolio (PP&P) mission, vision and strategy which are based on the organisation's mission, vision and strategy. The PP&P mission defines the rationale and purpose of its functions. The vision explains the intended goals and objectives of the PP&P functions, providing direction and focus to its members and other stakeholders. PP&P strategy shows how the vision should be realised. Top managers together with senior executives and PP&P managers establish, communicate, monitor and control the PP&P mission, vision and strategy. PP&P managers and staff act accordingly." [IPMA 2013]

Hence, strategy fulfils several functions related to projects and project management: it specifies the organisation´s overall purpose, clarifies the proposed organisational objectives, formulates guidelines for the entire organisation regarding the project, programme and portfolio management. It enables the orientation towards results and ultimately serves as a management tool for a long-term and sustainable development of the organisation.

However, in practice we often observe a gap between the strategic intent of an organisation and the implementation of their projects and programmes. There are many reasons for this gap, some of them shall be put forward in the following list:

- Different roles and responsibilities on strategic and operational level, often there is no clear link between the two levels
- Different educational backgrounds between people on the strategic level and the operational level
- Often no direct link between strategic and operational levels, functions, roles and responsibilities
- Only a few organisations employ a „Chief Project Officer"
- Project management discipline was developed „bottom-up", rather focusing on methods and tools (how to?) instead of a strategic reasoning (why?)
- In practice, we very often find a separation of planning („thinking") and implementation („acting")
- The focus is too often on linear processes instead of iterative approaches (micro and macro cycles, e.g. „bottom-up" strategy development)

Many surveys demonstrate through their results the impact of this gap in practice: the vision, mission and strategies are not achieved, projects and programmes fail to reach their intended results and / or the results are not paying into the organisation´s goals.

3. Overcoming the gap – some recommendations

3.1 Aligning the goals across all levels

At all levels of an organisation it comes to achieving goals. Usually, it starts first at the top level of the organisation with strategic objectives. These are the basis for deriving all other objectives, including those for projects, programmes and portfolios.

A Balanced Scorecard (BSC) is a common approach in order to formulate a balanced set of objectives. It is usually organised in the four dimensions of "Customers", "Finances", "Processes" and "Development". The objectives in the "Customers" dimension are focusing on effectiveness ("doing the right things"), whereas the objectives of the dimension "Processes" focus on efficiency ("doing things right"). The objectives of the dimension "Finances" are rather short-term, whereas the objectives of the dimension "Development" are a more long-term perspective. All objectives are systematically described with their respective Key Performance Indicators (KPIs), their target values and the measures. Figure 3 shows, how the project objectives could be aligned with the organisation´s objectives by using a BSC approach. Thus, a better consistency in relation to all the objectives can be achieved.

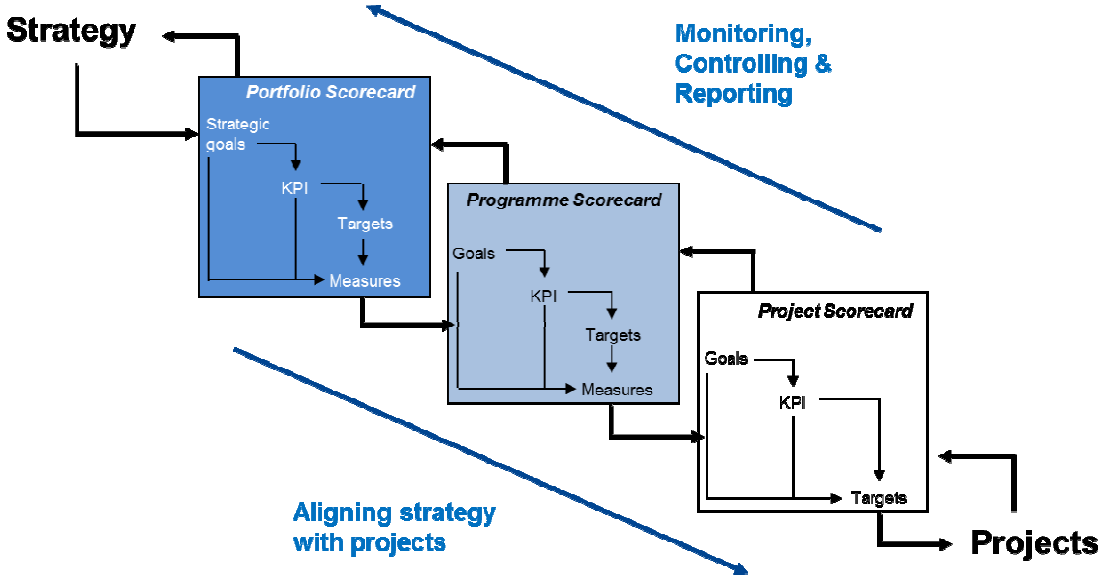

Figure 3: Aligning organisation´s strategic goals with project goals

Through the application of a Strategy Map this alignment can be tailored even in a more systematic way. A Strategy Map illustrates the objectives with their dependencies. Directions and cause-effect relationships can be analysed. Typically, the objectives of the "Development" dimension are influencing the objectives of the "Processes" dimension, these influence the objectives of the "Customers" dimension and thus have an impact on the

objectives of the "Financial" dimension. For example, a project management training helps to improve efficiency of project management, the customers benefit from faster results and are therefore willing to spend more money on the resulting performance. Of course, other cause-effect relationships are conceivable.

An expert survey of the GPM in cooperation with the EBS in 2013 proves that a majority of respondents (86%) acknowledges the BSC to be a suitable tool to close the gap between strategic intent and project implementation. However, only 17% of those respondents state that strategy is the main reason for introducing multi-project management (e.g. programme and portfolio management). The concepts exist largely independently in many organisations and are not systematically interlinked. [Wald et al 2014]

3.2 Aligning the processes across all levels

Projects, programmes and portfolios are performed through processes. The processes used for the management of PP&P should be aligned with strategic, support and operational processes of relevant internal and external parties (e.g. the clients and suppliers). Alignment aims at ensuring the effective and efficient delivery of PP&P objectives and performance targets through the co-ordination of processes across all involved parties.

In 2013, the German Institute for Standardisation (DIN) published a series of national standards on multi-project management. Part 2 of DIN 69909 describes a process model that combines the processes of the strategic level with those of the operational level(s). Project portfolio management is a "mediator" between the two levels (see Figure 4), linking the processes of the strategic control level with those of the operational control levels (e.g. programmes, projects and other related work).

In this process model, there are many interactions between the various levels, stages and processes. Interactions are represented by arrows. However, only most important interactions are shown. The interactions to support and value-added processes as well as interactions with external partners are not visualised in the diagram, but are often to be aligned in practice. In the application of the process model interactions can be added or omitted. Only the most important interrelations are shown. In the standard, all processes are described in a uniform format. This is useful for organisations that want to introduce multi-project, portfolio, programme and / or project management.

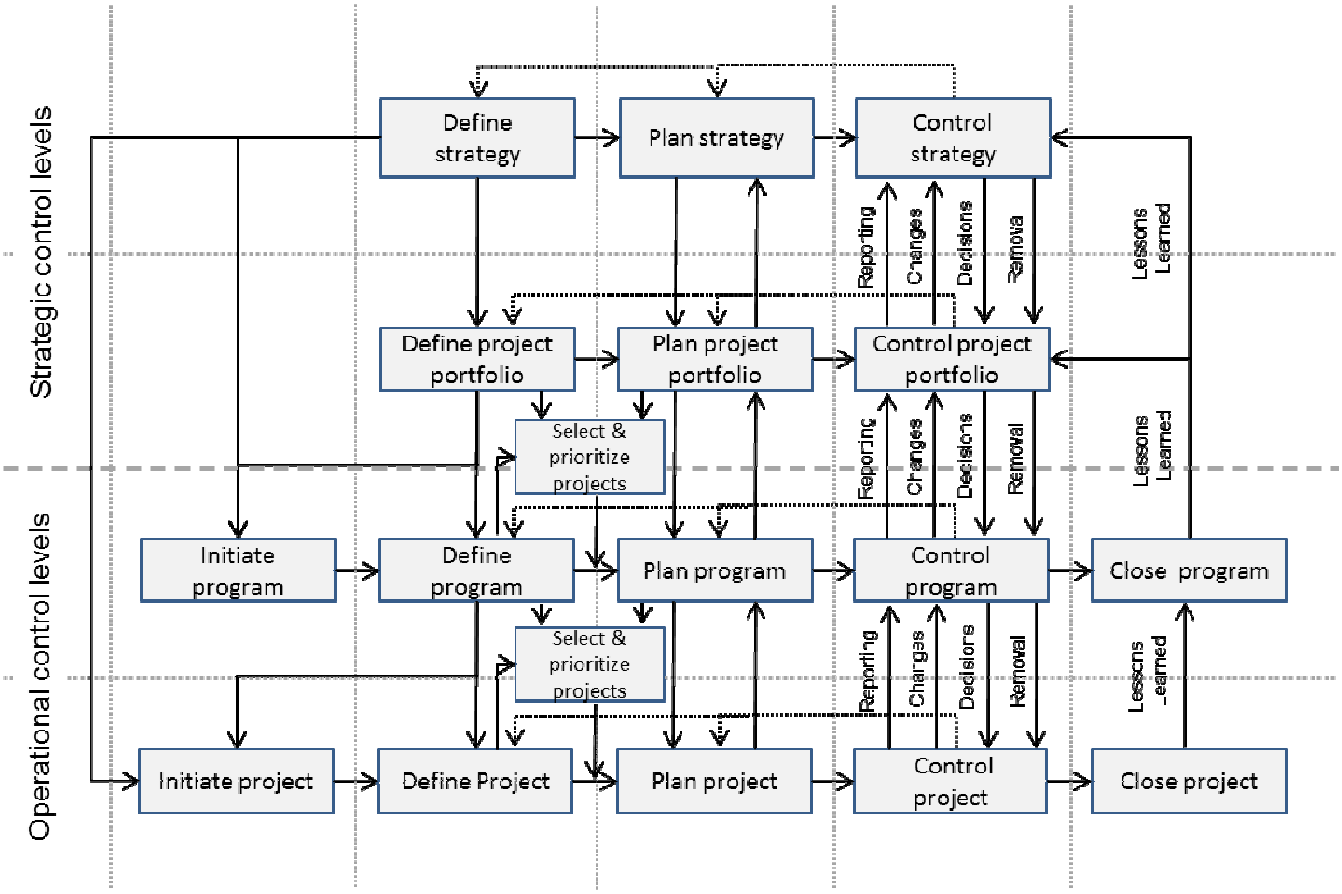

Figure 4: Aligning processes across all levels of an organisation [DIN 2013]

Moreover, the coordination of a variety of other processes is necessary. This includes the alignment of processes including but not limited to the management of risks and opportunities, knowledge, financial resources and suppliers. The data necessary for the execution of the processes, methods and tools should be also aligned with each other. This is unique for every organisation, so we cannot elaborate further in this article, on how to do this as described in the IPMA OCB. [IPMA 2013]

3.3 Aligning the structures across all levels

There is also an alignment between the structures (e.g. roles, functions, and units) across all levels necessary to overcome the gap between the strategic intent and the project implementation. Figure 5 displays how a project-oriented organisation may be embedded in the internal and external context of an organisation and what interactions or interfaces must be observed.

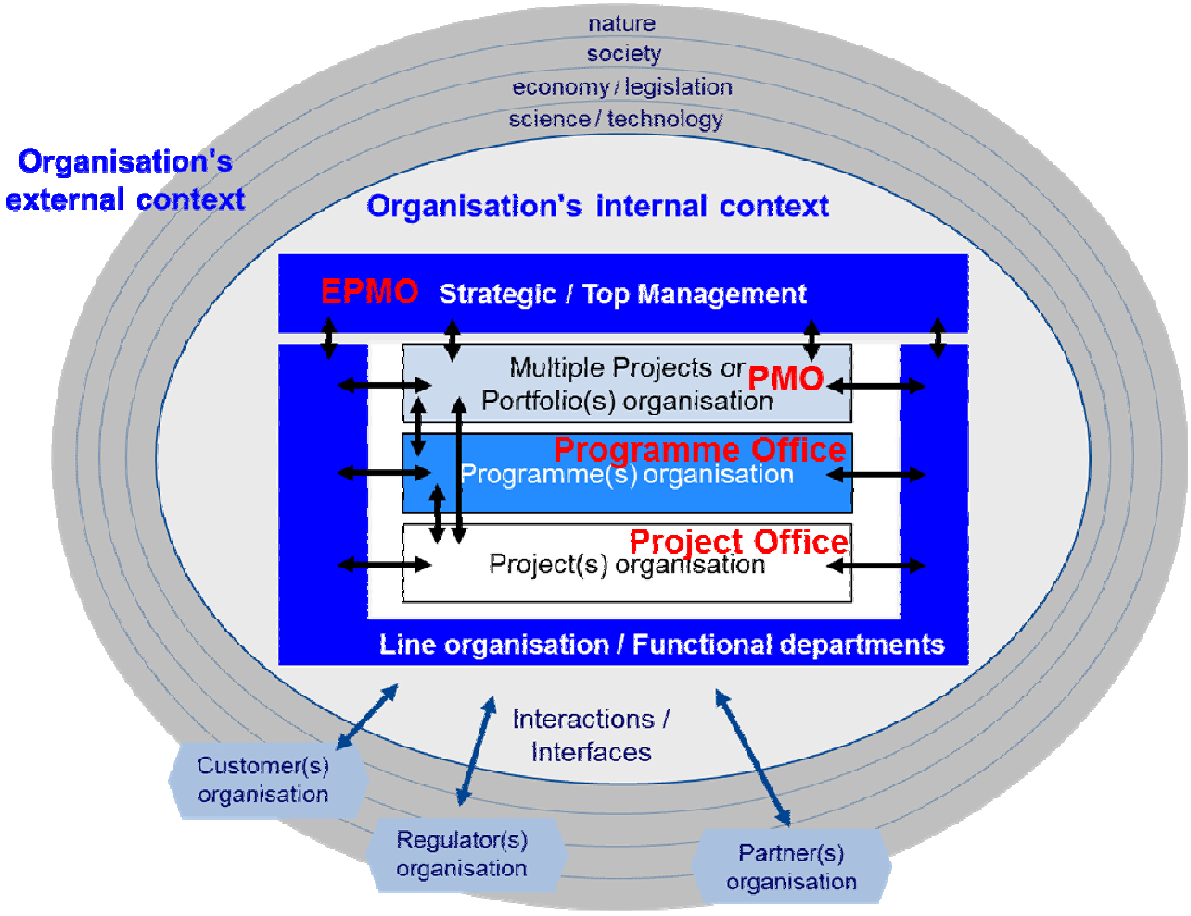

Figure 5: Structural alignment of a project-oriented organisation

The portfolio organisation also forms the bridge between strategic management and organisational units for the programmes and projects. This can be done by the role of a project portfolio manager, by an Enterprise Project Management Office (EPMO) or Project Management Office (PMO), and / or through a Project Portfolio Board. The Board as decision-making body has definitely more influence (e.g. with regard to the selection or prioritisation of projects and programmes), whereas the portfolio manager and the EPMO / PMO support the decision-making body.

In the initialisation, definition and planning phases the main task of the PM-related roles is to ensure their alignment with the overarching strategic framework in order to realise long-term benefits. Moreover, it should be ensured that goals of projects and programmes are feasible. During the phase of realisation and control it should be ensured that the necessary conditions for the implementation of programmes and projects are met (e.g. availability of necessary resources and timely decisions). The design depends heavily on the overall size and distribution of the organisation. Global organisations have a different design than small and medium-size ones.

This is highly relevant for the design of a PMO. A recent study of the GPM together with the ifmme - Institute for Modern Management Development at the University of Nürtingen-Geislingen (HfWU) revealed that 80% of the organisations participating in the study have a PMO, 8% are planning to introduce one and only 12% have no plans to operate a PMO [GPM 2014]. The study results show that although 60% of PMOs are located on the first or second management level, however, the vast majority is not at all, or only to a very small extent involved in the development and implementation of the strategy. There is certainly a need for action.

3.4 Aligning the cultures across all levels

And we should not forget to ensure coherence between the strategic and operational levels of an organisation's culture. It basically means to align basic assumptions, beliefs and values. When developing a strategy, corresponding values for the entire organisation, including projects, programmes and portfolios are to be formulated. In a project-oriented or -based organisation the organisation´s culture should rather be "project-friendly". This comprises not only a clear focus on results but also a customer- and team-orientation. The portfolio management or the (E)PMO could foster a project-friendly culture across all levels by emphasizing the respective values and practices through their roles.

The IPMA OCB describes the alignment of cultures as follows [IPMA 2013]: "Projects, programmes and portfolios are performed within a specific cultural environment, which influences the behaviour of the people managing them. PP&P cultures should be aligned with cultures of relevant internal and external parties. Alignment aims to ensure the effective and efficient delivery of PP&P goals and performance targets set by top management. Alignment is supported by teamwork and effective communication. The cultural environment, (e.g. values, visions, norms, symbols, beliefs and ethics) of internal and external organisational units relevant to the management of PP&P should be identified to PP&P managers and staff. The organisation should have regulations and guidelines available for cultural alignment identifying how cultures could be aligned. Cultural alignment should be regularly reviewed and action taken to maintain alignment."

4. Necessary conditions for closing the gap

Organisations and their leadership need to provide several conditions in order to close the gap between the strategic intent and the project implementation. Foremost, an organisational vision, mission and strategy need to be available to align projects, programmes and portfolios. The more clearly the strategic level addresses projects, the easier is the alignment, otherwise projects and programmes may develop their own objectives, processes, structures and cultures.

Another requirement is the active involvement of top management in the design of project, programme and portfolio management as well as all project activities. This was supposed to

be self-evident, in practice it is quite often a deficit. Sometimes top managers consider projects and programmes as operational matters in which they have no role or responsibility. It should be made clear that top management is ultimately accountable for all projects and thus needs to set the conditions, pro-actively monitor and control what´s going on and collect lessons learned to lever the organisational competences. Top managers should create an appropriate framework for all project-related work, they should decide on appropriate processes, structures and cultures, on the selection, prioritisation, implementation and termination of projects and programmes, and finally support the respective managers in their roles.

Projects are not only a means for external purposes (business), but increasingly apply to the design of the organisation itself, for example, as part of change projects or strategic initiatives. Here, the top management plays a crucial role. The aforementioned survey of GPM [Gleich et al 2012] highlights this as follows: "In the study, high or very high importance of project work at the higher management level is not only confirmed, but it was also pointed out that the strategic importance of project-related work was recognised.

At the strategic level projects are used as a form of work to manage specific tasks. Top managers are often part of projects themselves. A clearly defined project strategy, connected to, or as part of the organisation´s strategy can be an important step towards excellence in project management. Top management is therefore an important factor for project excellence. As results show, it meets its obligations largely. However, there is often a discrepancy between demand and reality."

The development of competences plays an important role in the convergence of strategy and projects [Wagner 2009]. The education and training of people working on the strategic level often lacks the competences needed to implement strategies (e.g. project and change management), whereas the education and training of project personnel often misses to address strategic competences. The fourth version of the IPMA Individual Competence Baseline (IPMA ICB®) shows necessary competences for project, programme and portfolio managers: "Strategy", "Governance, processes and structures", "Compliance, standards and regulation", "Power and interests" as well as "Culture and values". [IPMA 2015] These competences are mandatory as of 2017 for qualification and certification as project, programme and portfolio manager in IPMA´s systems. Courses for the top managers will follow soon.

Finally, the sustainable development of all organisational competences is a crucial pre-condition for integrating the strategic and operational levels. The IPMA OCB defines organisational competence for managing projects [IPMA 2013]: "…as the ability of organisations to integrate people, resources, processes, structures and cultures in projects, programmes and portfolios within a supporting governance and management system. Organisational competence in managing projects is specifically aligned with the mission, vision and strategy of the organisation and is intended to achieve results as well as to ensure continuous organisational development." The Figure 6 shows the competence elements.

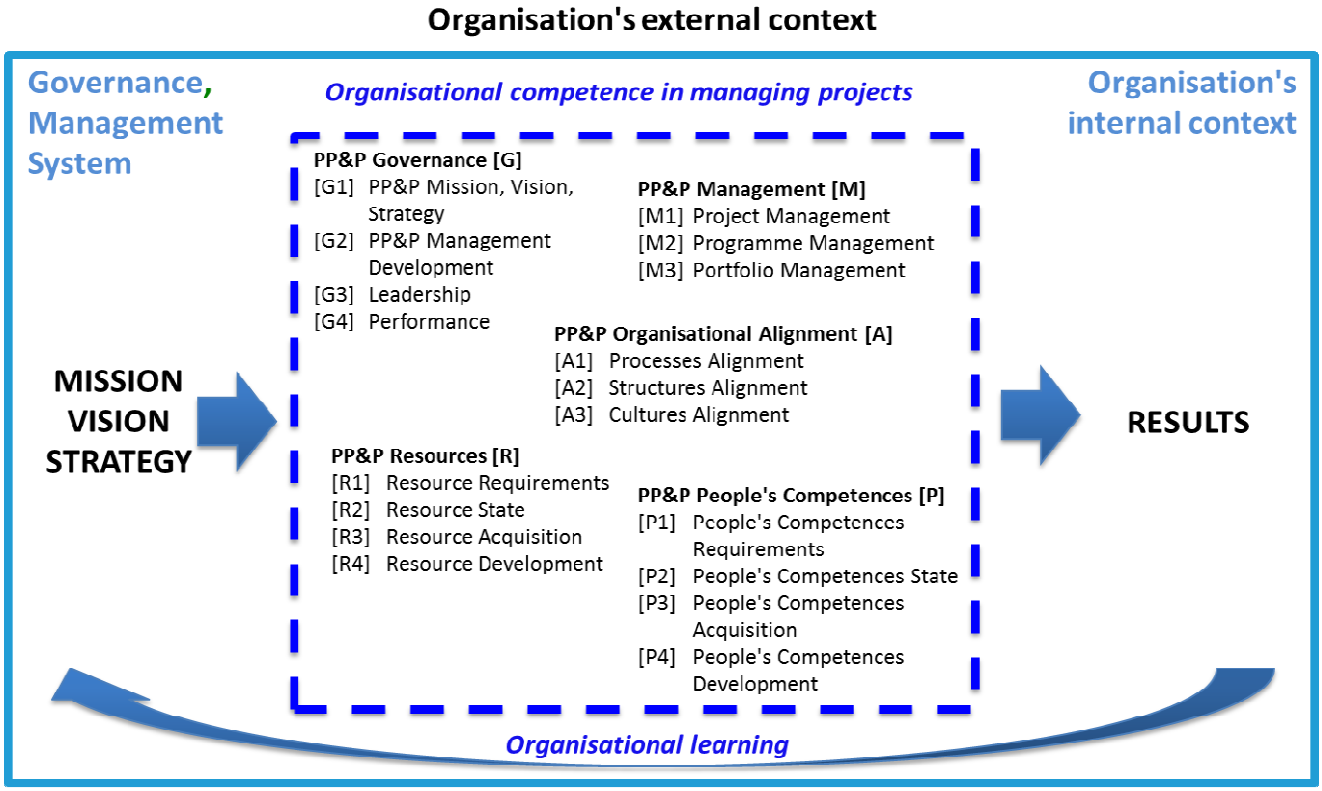

Figure 5: Competence elements of the IPMA OCB [IPMA 2013]

The competence elements of "PP&P Governance" are most important for the alignment of the organisation´s strategic and operational levels [IPMA 2013]: "The governance and management of projects, programmes and portfolios (PP&P) should be aligned and linked with the organisation's overall governance and management system. The principles of corporate governance should be translated into the PP&P governance system. All PP&P management functions should be linked to the organisation's management system. The PP&P mission, vision and strategy should direct the long-term development of the organisational competence in managing projects. The starting point for the development of an organisation´s PP&P mission, vision and strategy is the organisation's overall mission, vision and strategy. The latter acts as a framework for PP&P functions and defines the principal goals and requirements. The organisation's overall mission, vision and strategy should be updated on a regular basis. Subsequently, the PP&P mission, vision and strategy may also need to be updated. Reasons for updating both the organisation and PP&P missions, visions and strategies, can include: changes in the external and internal context of the organisation, insights and lessons gained through undertaking projects and programmes and the results of an evaluation of the performance of PP&P management."

5. Conclusions

In practice, we often observe a gap between the strategic intent of an organisation and its implementation through projects. There are many possibilities to close the gap, one of which is portfolio management, aligning objectives, processes as well as structures and cultures across all levels and functions. It helps to translate the mission, vision and strategic goals into goals for programmes and projects, for example by using a BSC and a corresponding Strategy Map. The project portfolio management also synchronises both levels through selection and prioritisation of programmes and projects. For this purpose, a portfolio management function or an (E)PMO should be established in order to support the alignment.

Top management plays a decisive role for the alignment. It should close the loop between projects and strategy development, e.g. by analysing the lessons learned. Top managers should play a decisive role for the selection, initiation and prioritisation of projects and programmes, they should pro-actively monitor and control and thus help to achieve the desired results. Project managers should learn how they can align their projects better within the internal and external context in order to overcome the gap. The IPMA Global Standards, the IPMA ICB and IPMA OCB describe the necessary competences for all people involved.

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Transforming our world: Achieving the 2030 Agenda for Sustainable Development through Strategic Project Management

Joel B. Carboni

Abstract

The UN Post-2015 Business Engagement Architecture was designed to engage business on sustainable development and the UN Agenda towards 2030. More specifically, it is meant to encourage corporate sustainability strategies to be rooted in respect for universal principles in the areas of human rights, labour, environment and anti-corruption while adopting transparent processes for stakeholder communication.

With the adoption of seventeen new sustainable development goals, UN member states have provided the key performance indicators that will shape sustainable development for years to come. To achieve these sustainability objectives, universally, portfolios, programs and projects will have to become better aligned with organizational strategies for sustainability.

This paper will review IPMA ICB® Version 4.0, IPMA Project Excellence Baseline®, the GPM Global P5™ Standard for Sustainability in Project Management and the GPM Global PRiSM™ Methodology, and outline their combined strengths in support of project success and a clear path to realizing sustainable development.

Keywords

P5; PEB; PRiSM, ICB4, Post-2015 Agenda, Climate Change, Project Success, Strategic Project Management, SDG, Sustainable Development, COP21, Competence

1. Introduction

On January 1st, 2016, Seventeen Sustainable Development Goals that went into effect replacing the millennium development goals as a new universal agenda with the aim of mitigating climate change, advancing human rights, gender equality and the empowerment of all women and girls to name a few. They are integrated and indivisible and balance the three dimensions of sustainable development: economic, social and environment (ESG governance).

Towards 2030, these goals are intended to inspire action in areas of significant importance for humanity and the planet. In order to achieve them, the business sector will have to adapt to this new landscape and develop sustainable approaches to how goods and services are developed, assess what it means to the corporate value chain and adjust their long-term business strategy accordingly.

Project management, a discipline synonymous with change, must also evolve and adopt sustainable methods to support the needs of the new corporate strategy paradigm and contribute to the achievement of the sustainable development goals.

2. The emergence of sustainable development

The industrial revolution gave birth to modern capitalism and production systems, which in turn have propelled humankind in the development of profit-focused economies to the detriment of the environment and societies. Since mid-1800, more nature has been destroyed than in all previous history [1].

Jane Gleeson-White states that the information age requires managers to make very different sorts of decisions from those made by industrial managers attempting to coax the most from factory workers so they could shift the greatest number of identical physical goods, such as cars, in the shortest amount of time and at the lowest cost. The decisions of managers are often guided by accounting information; it is natural to expect accounting to change. And yet it has not. [2] Accounting is not alone in this regard. Project management standards have time and cost as two foundational factors that define success.

In 1970 a Times magazine article, economist Milton Friedman argued that businesses' sole purpose is to generate profit for shareholders. According to Friedman, companies that did adopt responsible attitudes would be faced with more binding constraints than companies that did not, rendering them less competitive [3].

He concluded by stating that the difficulty of exercising 'social responsibility' illustrates, of course, the great virtue of private competitive enterprise -- it forces people to be responsible for their own actions and makes it difficult for them to 'exploit' other people for either selfish or unselfish purposes. They can do good -- but only at their own expense [3]. Friedman’s views were not universally agreed upon however the take-make-waste philosophy was more the norm than not and can be directly linked to major social and environmental issues that we are facing today.

While we know better now, it has taken time for global industry to awaken to the reality that ignoring environmental and social issues can be bad for business.

The relationship between organizational culture and sustainability has evolved since the emergence of the global sustainability movement during the early 90’s. It has become a predominant area of organization behavior and human resource research due to its relationship with the key characteristics of the sustainability performance of an organization [4].

The Sustainable Development Goals (SDGs) that took effect on January 1st, 2016 and serve as the plan of action for people, planet, and prosperity towards 2030 have 92 paragraphs, with the core paragraph (51) outlining the 17 Sustainable Development Goals and its associated 169 targets [5] and are detailed in Table 1 below.

Goals 1-6	Goals 7-12	Goals 13-17
End poverty in all its forms everywhere	Ensure access to affordable, reliable, sustainable and modern energy for all	Take urgent action to combat climate change and its impacts
End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Promote inclusive and sustainable economic growth, employment and decent work for all	Conserve and sustainably use the oceans, seas and marine resources
Ensure healthy lives and promote well-being for all at all ages	Build resilient infrastructure, promote sustainable industrialization and foster innovation	Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss
Ensure inclusive and quality education for all and promote lifelong learning	Reduce inequality within and among countries	Promote just, peaceful and inclusive societies
Achieve gender equality and empower all women and girls	Make cities inclusive, safe, resilient and sustainable	Revitalize the global partnership for sustainable development
Ensure access to water and sanitation for all	Ensure sustainable consumption and production patterns	

Table 1: The 17 Sustainable Development Goals [5]

Take urgent action to combat climate change and its impacts

Action towards each of the 17 goals is essential. As an example of the current challenges humanity is faced with I will outline goal number 13. Recent emphasis on climate change has heightened the focus on human impacts to the environment. In December, 2015 at the 21st Session of the Conference of the Parties (COP21/CMP1) in Paris, France, 195 countries vowed to hold the global average temperature to well below 2˚ Celsius, above pre-industrial levels, while taking measures to limit temperature increases to 1.5˚.

This agreement is timely in that the first nine months of 2015 comprised the warmest such period on record across the world's land and ocean surfaces, at 0.85°C (1.53°F) above the 20th century average, surpassing the previous records of 2010 and 2014 by 0.12°C (0.21°F).

Given current concentrations and on-going emissions of greenhouse gases in the atmosphere, it is likely that by the end of this century, the increase in global temperature will exceed 1.5°C s compared to the timespan of 1850 to 1900. [4] Figure 1 shows the increases from 1880 with projections to 2020 at the current rate.

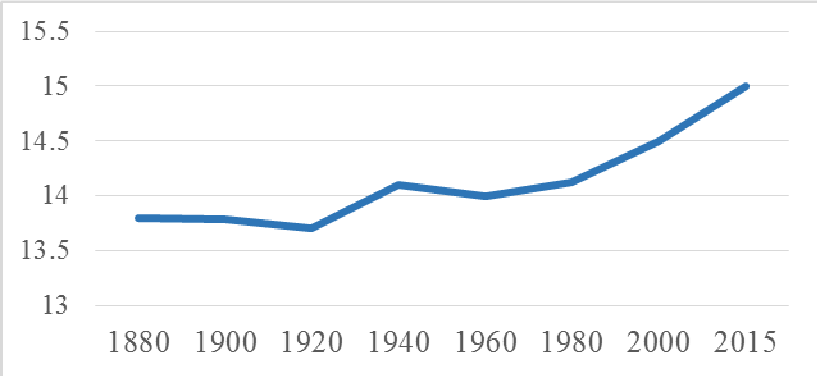

Figure 1: Combined Surface Temperature in °C Trend [4]

3. The UN Post-2015 Business Engagement Architecture

The Post-2015 Business Engagement Architecture illustrates the main building blocks necessary to enhance corporate sustainability as an effective contribution to sustainable development, creating value for both business and society. Each of these building blocks must be further strengthened and connected through a comprehensive and collective effort if they are to help take corporate sustainability to scale and turn business into a truly transformative force in the Post-2015 era. Individual companies, corporate sustainability organizations, Governments, investors, business schools, civil society, labor and consumers all have a role to play in scaling up business action, and should be able to identify those areas in which they need to do more. [6]

The architecture outlines the interdependent relationships between companies, markets, and economies due to the globalization forcing the overlapping interests between industry and society as it pertains to long-term business goals that include revenue growth, resource productivity, and risk management and sustainable development priorities that emphasize inclusive growth, social equity, and progress, and environmental protection.

While opportunities related to sustainable development exist in all core corporate functions and business units a survey conducted by Accenture with the support of the UN Global Compact of 1000 CEOs from 27 industries across 103 countries [7] uncovered that:

- 68% of CEOs do not believe the global economy is on track to meet the demands of a growing population
- 67% report that business is not making sufficient efforts to address global sustainability challenges
- 62% believe they cannot quantify the value of their sustainability initiatives
- 37% see the lack of a link to business value as a barrier to accelerating progress

On June 25th, during a plenary session of the UN Global Compact's founding Executive Director Georg Kell stated, "I guarantee that within four years, the marketplace will have changed from within because sustainability and its reality is becoming a transformative force. Finally, asset managers are waking up to the basic reality that sustainability pays off. Long-term financial success can only be assured if companies also good on governance, on social behavior, and environmental stewardship. Failure on any of these three pillars will make it impossible for companies to sustain success over time or to become successful." [8]

This shift is important for six key business reasons.

1. Sustainability will serve as key factors in decision making when selecting and prioritizing asset development
2. Approaches to management are being augmented to include sustainable practice
3. Project performance will no longer be based solely on if the project was within budget, met the scope, and was completed on time.
4. Risk Management from a brand perspective will extend deeper into the product lifecycle.
5. Organizations ability to differentiate in the market will depend on their ability to deliver products and services sustainably from a true cradle to cradle or cradle to grave perspective by including the project lifecycle into the reporting equation
6. Millennials. Business will adapt whether it wants to or not.

There are few more stirring topics than the impact that millennials are having on businesses around the world.

While they might come across as a bit entitled or even brash but this generation fully grasps the challenges the world is facing, has the out-of-the-box mentality to tackle them and that has tremendous value. They comprise of 21% of consumer buying power and now make up the largest percentage of the workforce.

A 2015 study by Millennial Branding and Elance-oDesk, [9] 53 states that 53 % percent of hiring managers claim that it is difficult to find and retain millennial employees as 58% of millennials expect to leave their jobs in three years or less. This is not surprising as research by sustainable brands that indicates that 80% of millennials want to work for companies that care about their impacts. They hold transparency as one of the top qualities they look for, are drawn to projects that play to their strengths, and prefer a collaborative team approach.

With the scramble to adapt business practices to accommodate this new workforce, projectizing is increasingly becoming more attractive as projects are temporary in nature and provide a structure that accords with the millennial mindset.

While millennials have yet to penetrate the executive suite en masse, it is only a matter of time. If organizations do not adapt their approach to projects with sustainability as a central part of that equation, they won't need to worry about investor demands for long term success as they simply won't be around very long.

4. Project management's role in advancing sustainable development

Sustainability reporting is increasingly becoming the key platform for communicating organizational, economic, environmental, social and governance performance, reflecting positive and negative impacts.

A Governance & Accountability Institute study found 72 percent of the top 500 companies ranked by Standard & Poor issued a report on their social responsibility and sustainability initiatives in 2013 up from 53% in 2012 and 20% in 2011 [10].

As of June 25th, 2014, 6,321 organizations have submitted over 15,234 reports to the Global Reporting Initiative alone [10]. In sustainability reports, information related to an organization's product/service impacts to society and the environment are an ongoing challenge. In the GRI G4 Reporting Framework, there are five aspects in relation to products and services that directly affect stakeholders - and customers in particular.

1. **Customer Health and Safety**
    a. **Indicator 1.** Percentage of significant product and service categories for which health and safety impacts are assessed for improvement
    b. **Indicator 2.** Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes

2. **Product and Service Labeling**
    a. **Indicator 3.** Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant products and service categories subject to such information requirements
    b. **Indicator 4.** Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes
    c. **Indicator 5.** Results of surveys measuring customer satisfaction

3. **Marketing Communications**
    a. **Indicator 6.** Sale of banned or disputed products
    b. **Indicator 7.** Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes

4. **Customer Privacy**
    a. **Indicator 8.** Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data

5. **Compliance**
    a. **Indicator 9.** Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services

Materiality in the context of the GRI G4 reporting framework include topics that have a direct or indirect impact on an organization's ability to create, preserve or erode economic, environmental and social value for itself, its stakeholders and society at large [11].

In this context, project management processes and their resulting products (assets) are material, as they do not live solely within the confines of the environment in which they were intended. Project impacts on society and the environment in which they are utilized must take into account these indicators as measures for project success. [12].

5. Harmonization of standards to drive sustainable development

Realizing the ability to contribute to sustainable development goals is in and of itself a prime factor in an organization's decision to adopt sustainable project management practices. These same practices reinforce the realization that they are the key to achieving long-term business objectives in the form of increased revenue, market differentiation, risk mitigation, and brand protection.

Figure 2 represents the flow of organizational strategy, permanent organization and projects have been separated into three interlocked relationships that are connected by principles and values, competence, and approach due to the unique nature that each represents.

By this design, taking sustainability factors into account from a global perspective and setting goals based on international project management standards that advocate sustainability principles, organizations can better equate performance of short term initiatives as to how they relate to their overall strategy for sustainability while directly supporting the sustainable development goals.

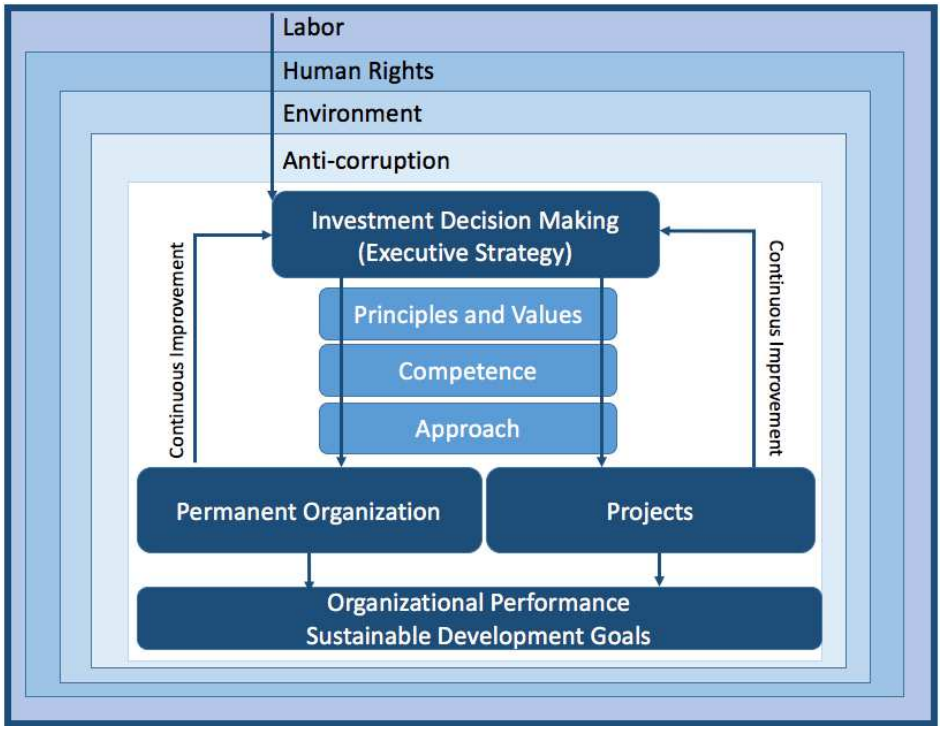

Figure 2: Harmonization and impacts

Key:

- **Labor, Human Rights, Environment, and Anti-Corruption** represent the four pillars of the UN Global Compact Ten Principles.
- **Principles and Values** are the core beliefs and traits of an organization
- **Approach** is the guiding processes for management
- **Investment Decision Making** – strategic goals based on long-term objectives, mission, and vision.
- **Permanent Organization** – the operational aspects of an organization that makes use of assets and resources; in this paper it is the non-strategic aspects.
- **Project(s)** – are a unique set of processes consisting of coordinated and controlled activities with start and end dates, performed to achieve project objectives [20].
- **Organizational performance and Sustainable Development Goals** represent the value the organization creates in order to sustain itself while also contributing to larger shared goals.
- **The down arrows** represent the organizational flow from strategy to delivery
- **The up arrows** represent lessons learned that help the organization mature.

5.1 Project management standards bound by a common ethos.

Products and services cannot be sustainable if the management practice that brings it to life ignores [sustainability] principles. In order for project management to serve as an actor in sustainable development, it is important that competence standards, approaches, and frameworks share a common ethos.

Harmonization based on shared objectives serves as one of four components of UN Post-2015 Engagement Architecture. Platforms for Action and Partnership help optimize and scale up corporate sustainability efforts as well as contribute to corporate participation in the broader multi-stakeholder efforts to achieve UN [sustainability] goals [6].

With the introduction of the GPM® Global PRiSM™ Methodology in 2011, the GPM Global P5™ Standard for Sustainability in Project Management in 2014, the IPMA® ICB4® in 2015 and the IPMA Project Excellence Baseline® in 2016, it was the first time that four standards from differing organizations that support different aspects of project management, complimented one another other and place emphasis on sustainability. This harmonization demonstrates a renaissance from an output-focused discipline to a greater emphasis on principles and values.

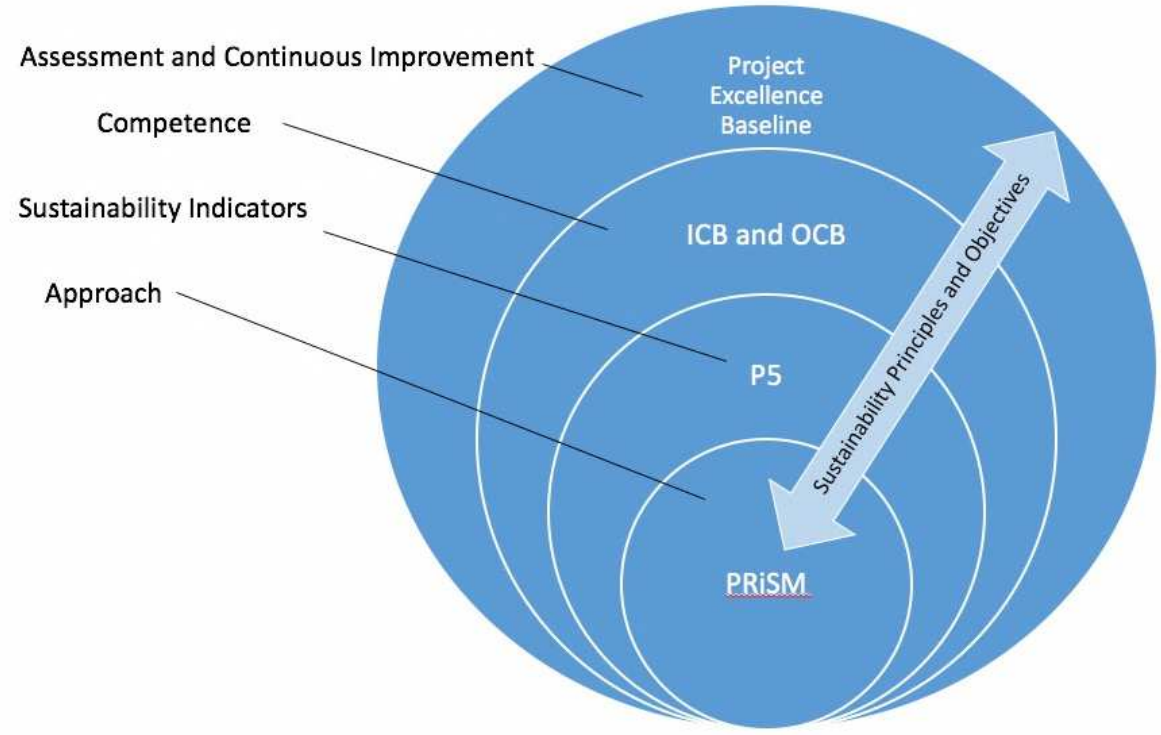

Figure 3: The Relationship between standards.

5.1.1 IPMA® Project Excellence Baseline

The main purpose of the IPMA® Project Excellence Baseline (PEB) is to describe the concept of excellence in managing projects and programs. It also serves as a guide to organizations in assessing the ability of their projects and programs to achieve project excellence [16].

According to the PEB, the integration of sustainability principles and objectives into projects commences well before a project starts, so that long-term benefits are identified, addressed, and integrated into project management. An important part of integrating sustainable principles and objectives into projects is the alignment of the project and its team(s) to organizational objectives and reporting [16].

The PEB outlines the following criteria for assessing a project. When assessing an individual project, the assessors generally need to ask themselves:

- To what extent should the influence of the overall management processes and leadership within the permanent organization be taken into account?
- How do we treat projects using mature, in house management methodologies supported by effective tools provided by the permanent organization and/or the dominating culture in a given region where the project is conducted?
- How do we treat the cultural influence of the permanent organization and/or the dominating culture in a given region where the project is conducted?

5.1.2 The IPMA® Individual Competence Baseline

The IPMA ICB® (ICB4) is a global standard that defines the competences required by individuals working in the domains of project, program and portfolio management. The ICB4 builds upon the prior editions of the ICB, and presents new insights and directions for a wider range of purposes. It serves a broad range of audiences, including educators, trainers, practitioners, HR professionals, and assessors. Within the IPMA 4-Level-Certification system, the ICB4 serves also as the baseline for assessments [15].

The ICB has incorporated sustainability in all three competence domains.

1. **People -** Promoting sustainability means focusing on the endurance of solutions even when engaged in time-limited tasks. Sustainability is not only about social equity, environment protection or economic results. It is the consideration of the long-term outcomes and effects of behavior. The individual has the ability to keep the bigger picture in mind and act accordingly
2. **Practice -** The individual is able to assess the impact of the (Portfolio, Program, or Project) on the environment and society. Realizing his or her responsibility, the

individual researches, recommends and applies measures to limit or compensate negative consequences. The individual follows (or even exceeds) guidelines and rules on sustainable development coming from within the organization and from the wider society, and is able to realize a workable balance between the demands of society, impacts to the eco-environment and the economy. The individual understands that sustainability aspects, measures and attitudes often vary in different countries and cultures.

3. **Perspective -** The individual should use this competence to demonstrate how all parts and layers of the management system might be improved. By increasing the project, program or project portfolio management competence, the organization increases its ability to choose and perform successful projects, programs and portfolios and thus achieve the sustainability of the organization

The Key Competence Indicators in all three domains require knowledge on sustainability principles and objectives (such as the 17 SDGs [5]).

Principles, according to the Business Dictionary are fundamental norms, rules, or values that represent what is desirable and positive for a person, group, organization, or community, and help it in determining the rightfulness or wrongfulness of its actions. Principles are more basic than policy and objectives, and are meant to govern both. Sustainability Principles are defined by the UN Global Compact, Earth Charter, and UN PRME when placed in a project can be consolidated into the following six [18]:

1. **Commitment & Accountability** - Recognizing the essential rights of all to healthy, clean and safe environments, equal opportunity, fair remuneration, ethical procurement, and adherence to rule of law
2. **Ethics & Decision Making** - Supporting organizational ethics, decision making with respect for universal principles through identification, mitigation, and the prevention of adverse short and long-term impacts on society and the environment
3. **Integrated & Transparent -** Fostering the interdependence of economic development, social integrity, and environmental protection in all aspects of governance, practice and reporting
4. **Principal & Values Based -** Conserving and enhancing our natural resource base by improving the ways in which we develop and use technologies and resources
5. **Social & Ecological Equity -** Assessing human vulnerability in ecologically sensitive areas and centers of population through demographic dynamics
6. **Economic Prosperity -** Establishing fiscal strategies, objectives, and targets that balance the needs of stakeholders, including immediate needs and those of future generations

5.1.3 The GPM P5 Standard for Sustainability in Project Management

The GPM Global P5 standard for Sustainability in Project Management is a tool that is used to measure a project for sustainability-related impacts and to assist in decision-making. P5 expands on the triple bottom line theory to allow for project management integration [13].

A “product” is defined as being any tangible or intangible service, goods, change, resource, business result or outcome undertaken by an organization, using project management processes to create, update, expand, maintain and eventually dispose of the products, with the objective of using the product to provide future benefit to the organization.

There is no set time period for a product or asset life cycle as the length of each phase of its existence varies depending on economic life.

A project’s life cycle may not be the same duration as its timeline as success may only be achieved at times such as “benefits realization”. Therefore, its timeline may include a separate project for the period after a traditional contract project, which is the period of time between the traditional project period and the benefit being realized to the organization.

One product’s entire life cycle could be completed within a few months while another product’s life cycle could last for years.

A project consists of a unique set of processes consisting of coordinated and controlled activities with start and end dates, performed to achieve project objectives. Achievement of the project objectives requires the provision of deliverables conforming to specific requirements. A project may be subject to multiple constraints. Every project has a definite start and end and is usually divided into phases [13].

Although many projects may be similar, each project is unique. Project differences may occur in the following:

- Deliverables provided
- Stakeholders’ influence
- Resources used
- Constraints
- The way processes are tailored to provide the deliverables
- The context or specific application (A construction project is very different from an IT project)
- The perspective of the stakeholders (especially the difference between the contractor, for whom the project is a profit center, and the owner, for whom the project is only the means to an end).

The P5 standard measures project objectives and deliverables, their intended life spans, servicing, and project processes from a maturity and efficiency perspective against social,

environmental, and economic factors. It also views the maturity of these processes and the efficiency in which they are applied to determine the overall level of sustainability for a given project.

5.1.3.1 Relevance and adoption of sustainability in project management

In January 2016, a GPM Global survey of 15,036 individuals who have downloaded the GPM P5 standard since it was released in 2014 returned 3,600 responses. It was conducted to find out how sustainability factors are incorporated into projects, by whom, where was the focus the most prominent, and most important, if the standard having a positive impact.

Breakdown of the responses by region:

- 44% Europe
- 39% The Americas
- 10% Asia Pacific
- 6% Africa
- 2% Middle East

Break down of respondents by focus:

- 33% project managers
- 19% academic focused
- 17% sustainability professionals
- 11% executives
- 8% training providers
- 6% portfolio or program managers
- 6% government officials

Breakdown of the respondents by years of project management experience:

- 42% have greater than 15 years
- 22% have 6 to 10 years
- 8% have 4 to 5 years
- 17% have 1 to 3 years

Key statistics (See Analysis Below):

1. 94% of the respondents stated that projects and project management are integral to sustainable development.
2. 76% of the respondents are using the standard in their projects.
3. 93% of the respondents who are using the standard in their projects have seen a tangible increase in project performance.
4. 96% of the respondents found the standard helpful
5. 75% of the executives stated that their organizations do sustainability reporting
6. 50% of the project managers stated that their organization does not do sustainability reporting

Analysis

Based on the survey outcome the number of individuals who believe that projects and project management are a key to sustainable development is almost a unanimous opinion.

The data shows that adoption of sustainability in projects is at a slightly faster pace in Europe and the Americas as compared to the rest of the world. Project managers, academics and sustainability professionals comprise of the largest adopters and of them the more senior in experience are the early adopters.

Those that have adopted the standard see an increase in overall project performance which is a strong indicator that (among adopters) the shift has begun to expand project performance standards beyond the standard time, cost, and scope measures.

Of the respondents, that are project managers, half manage projects in organizations that do not publish sustainability reports which allows for opportunity to projects to be a driving force for materiality when reporting does begin.

Of the executives who responded, the 75% percentage of which stated that their organization does sustainability reporting which is the same percentage of the S&P 500 that published corporate sustainability reports in 2015 according to the G&A Institute.

5.1.4 The GPM PRiSM Methodology

PRiSM (PRojects integrating Sustainable Methods) is a sustainability-centered, total systems lifecycle approach for managing projects. PRiSM Brings change (projects) into a more strategic focus by leveraging existing organizational systems to ensure that benefits are realized horizontally and vertically, with the utmost attention focused on corporate sustainability [14].

PRiSM, is architected so that the integration of sustainability principles and objectives are part of the project mandate, business case risk and benefits analysis.

The methodology harmonizes organizational systems as part of its implementation and can be configured to integrate with existing frameworks such as DSDM's Atern and PRINCE2®.

The P5 Impact analysis as a key function of the method from a risk and decision making perspective and sustainability management plan (SMP) is designed to ensure that sustainability impacts, both positive and negative, are measured through the life of the project as well as the resulting assets life in order to support and provide materiality to the sustainability reporting [14].

The PRiSM methodology provides inroads to expand the capabilities of organizations to provide a complete cradle-to-cradle report. The methodology includes project processes and their products as critical elements through qualitative and quantitative measurements using the P5 Standard and is used in a manner similar to that of a Log Frame analysis (the logical

framework), a tool that structures the main elements of a project and highlights the linkage between them.

PRiSM's five layers include Subject groups, orientation, focus and outcomes.

Figure 4: The PRiSM Structure [19]

In PRiSM, each subject group consists of processes applicable to any project phase or project. They are defined in terms of sustainability orientation, organizational strategy and systems alignment using a sustainable-total asset lifecycle approach.

6. Conclusion

At it is core: Project management is about people who shape and mold our economic, social, and environmental conditions that make it possible for organizations to reach their full potential. As organizations across the globe embrace sustainable practices, making them core to their business objectives, each domain must break their comfort barriers to in order to align with and support this new business paradigm.

Project Management must understand sustainability in its language. It must be digestible, realistic, and simple. At the same time, it must be transformative. Redefining measures of project performance beyond time cost and scope that coincide with the new sustainable and inclusive economy is necessary. This requires a fresh look at the purpose of project management and the ability to act as a collective driver of value and benefit from a long-range perspective that balances the needs of business, the environment and society rather than outputs that drive profit for shareholders.

This requires concrete tools, practices, and solutions that measure total impact and support social progress. The standards outlined in this paper demonstrate that initial the steps have been taken.

Now organizations and practitioners must rise to the challenge and demonstrate why project management is uniquely suited to drive the 2030 Agenda for Sustainable Development.

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Strategic Project Management in Oil and Gas Industry: An empirical investigation in Kuwait

Mitra Arami

Abstract

As project management is becoming more strategic and business oriented, new and formal approaches are needed to address the changes in the profession of project management. Strategic Project Management combines the strategic business related activities of projects, the operational needs and also leadership aspects of inspiring and motivating the project team. This paper presents the major findings of a research project in Oil and Gas Industry in Kuwait. The main objective was to analyse the existing training and provide suggestion for introducing Strategic Project Management in career development training of projects managers in oil and gas industry, and support the transformation of project practitioners into leaders, who must deal with the strategic and business aspects of their projects, define a vision to inspire their project teams, and also learn how to adapt their management style to project context.

Key words

Strategic Project Management, Project Management Training, Project Management in Oil and Gas Industry, Project Management Education, Experiential learning

1. Introduction

In the late 1990s, projects and multi-project companies emerged as innovative organisational concepts, dealing with ambiguous and dynamic environments. A main challenge was the integration of projects into organisational structures. In the meantime, the importance of project management is gaining more attention as a source of organization's competitive advantage. Competitive pressures such customer and supplier demands, product or service complexity or time to market are some of the factors that contribute to project management gaining ground as an important source of an competitive advantage (Cleland and Ireland, 2007).

According to Turner (Turner, 2008), "*twenty years ago managers were not directly involved in the management of projects. Managing changes in the organizations was limited to specialist in technical functions*". However, due to growing importance of projects as a competitive advantage source for organisations, strategic project management has gained attention of the researchers and practitioners in past decade.

A number of project management scholars and practitioners launched an initiative called ''Rethinking Project Management". The main objective of this initiative was to define a new agenda for research and education within the area of project management and the main

findings were published in articles in a Special issue of the International Journal of Project Management. Winter et al. (2006) highlighted the need of a new research agenda in project management and also the authors also argue for the need to rethink education and that educators must move away from the delivery of standard package solutions and techniques-orientated pedagogy to ‘‘*learning and development which facilitates the development of reflective practitioners who can learn, operate and adapt effectively in complex project environments.*” (Winter, 2006, page 642).

The focus of this paper is on advanced training for project managers with focus on strategic management training and the integration of this topic as an organizational concept. The main research question is “How to improve the integration of strategic project management into current project management training?”

Our paper is organized as follow: we review the literature of strategic project management and project management training. Then based on a case study in oil and gas industry in Kuwait; we develop propositions for design of project management training, with emphasis on strategic project management. The literature review section focuses on project management resources as a source of competitive advantage, and examines frameworks that contribute in training of project managers especially in strategic management.

2. Strategic Project Management

Strategic management is about “the direction of organizations” and the main focus of strategic management is to support success, failure, and competition in organizations (Rumelt et al., 1994). At the strategic level of the organization, top management has to focus on creating the company’s strategy, vision, and mission. Later on these concepts will support the practice at the operational level of organizations, which is mainly delivered by those who are in charge of implementation of plans, creating related products and services (Floyd and Woolridge, 1997). Strategic resources involve explicit and tacit knowledge (Eisenhardt and Santos, 2000) and are embedded in a company’s unique skills and knowledge, and their approach of working (Rumelt et al., 1994). It has also been discussed, that a subset of a company’s strategic assets or strategic resources, contribute to its competitive advantage (Amit and Schoemaker, 1993).

According to Brown, strategic project management means that selecting, managing and measuring project outcomes should support and ensure optimal value for an organization, which means all projects within the organization should ensure alignment with the strategic vision of the organization (Brown, 2007). The strategic approach to project management implies that organizations, project teams, project managers, and executives must gain more understanding and learn how to focus on project execution, which means, achieving business results for the organization. This is usually understood as making more profit, improving market share and growth (Patanakul, Shenhar, and D. Milosevic, 2012).

The majority of Project management literature has focused on basically tangible resources, which can be defined as methodologies, documents, tools and techniques (Aubry et al.,2007; Besner and Hobbs, 2006, 2008; Hobbs and Aubry, 2007). Tangible resources involve codified or explicit knowledge while intangible resources are based on tacit knowledge. According to Nonala, *"codified and tacit knowledge have also been labelled as know-what and know-how* (Nonaka, 1994).

To date, considerable project management literature has focused on the tangible resources and codified knowledge shared through research on project management offices, methodologies, databases, documents, and tools and techniques (Aubry et al.,2007, 2008; Besner and Hobbs, 2006, 2008; Hobbs and Aubry, 2007). Intangible project management resources include tacit knowledge. Tacit knowledge is usually shared based on an informal communication and learning through work-based learning, mentoring, shadowing, storytelling and brainstorming (Leonard and Sensiper, 1998).

In line with literature, more attention should be paid to the process of aligning project management to business strategy (Shenhar et al., 2007). However, there is a gap in studies to investigate and describing in depth analysis for achieving this alignment (Aubry et al., 2007).

3. Project Management Trainings

While project management training is offered by many training institutions and is incorporated into business school curricula, often the main focus is on the technical skills of project management. While these technical skills are undoubtedly a necessary part of project management education, they are not sufficient management skills (Pant and Baroudi, 2008).

There are a number of pedagogical studies in the literature that address a variety of topics related to teaching project management. These topics range from identifying the core concepts that should be covered in project management courses to effective class activities for teaching project management. Kruck and Teer (2009) identify the importance of assigning projects across interdisciplinary teams.

PM education programs need to be designed and delivered clearly stating the intended outcomes and also the assessment of skills. Berggren and Soderland (2008) analysed current trends in project management education and proposed a model based on a ''social twist" of experiential learning theory to rejuvenate, stretch and improve project management education. According to Berggren and Soderland (2008) *socialisation of learning needs to be "operationalised in both individual and collective settings with the organisation" and three learning "spaces" or "levels" are proposed* (2008, p. 290).

4. Research Methodology

A qualitative explorative approach was assumed for this study, since according to literature review, there has been a gap on research on this field. A case study research is a useful approach for studying processes in organisations, especially explanatory investigations (Gummesson, 1991) and the case study research has been suggested by many scholars (Yin 1984; Eisenhardt, 1989. The data collection was undertaken via interviews, observations and document analysis.

4.1 Experiential learning

Many researchers have developed frameworks and theories for management learning. One of the most influential theories of management learning is experiential learning theory. Kolb's (Kolb, 1984; Kolb and Kolb, 2005) experiential learning theory (ELT) serves as the basis of this approach. Numerous papers provide insight into management learning processes (Dixon, 1994; Hunt, 1987; Lengnick-Hall and Sanders, 1997; Van der Hiejden, 1996).

Experiential learning integrates Dewey's pragmatism, Lewin's social-psychology, Piaget's cognitive-development, Rogers's client-centred therapy, Maslow's humanism, and Perls' Gestalt therapy (Kolb, 1984: 15).

Kolb explains that the dimensions of transformation of experience are diametrically opposed; this dimension is expressed on the horizontal axis in figure 1. Some people tend to transform through actively testing their, which is called extension and others transform via reflection on their experiences and ideas, which is called intention.

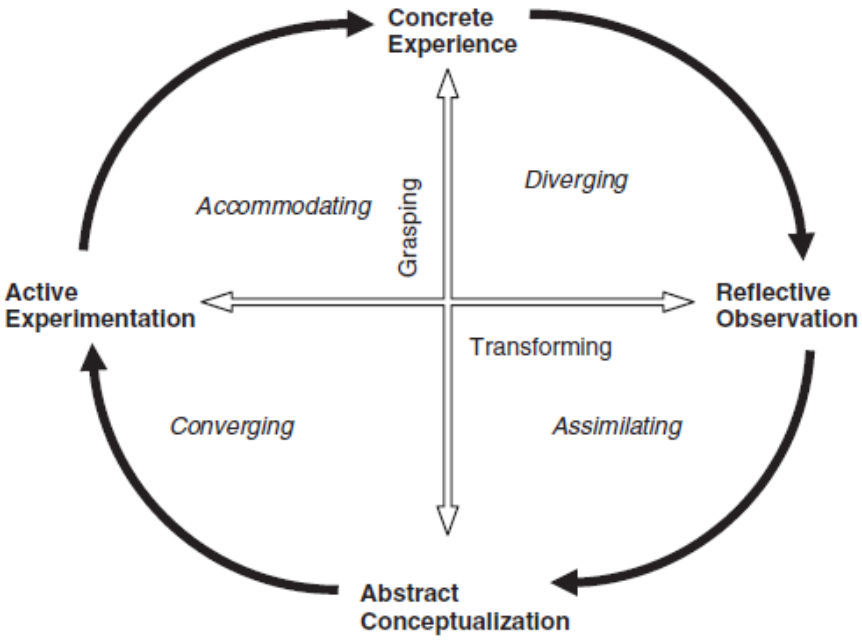

Figure 1: Kolb's Model of Experiential Learning

Kolb also, provides also a typology of learning styles, which is expressed in figure 2. The learning styles are categorized as *converger*, *diverger*, *assimilator*, and *accommodator*. According to this typology, individuals have a preference for learning style. The converger learns by thinking and transforms by applying, the diverger learns by feeling and applying and transforms by observing and reflecting, the assimilator learns by thinking and transforms by observing and reflecting, and the accommodator learns by feeling and applying and transforms also by applying.

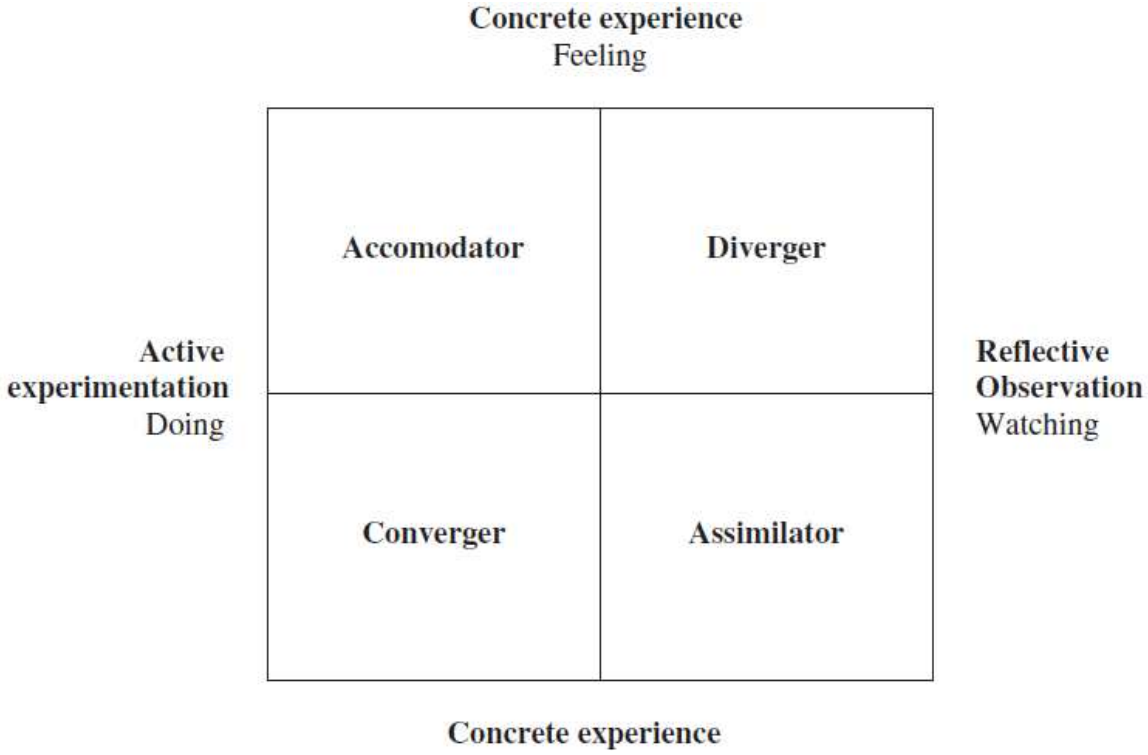

Figure 2: Kolb's Learning Styles

In line with we have developed a conceptual framework for assessing project management training, focusing of evaluation is on assessing tactic knowledge and especially strategic project man agent.

4.2 Bergen and Soderlund

Berggren and Soderlund (2008) presented the challenges of education in project management and suggested a twist of Kolb's model and propose six learning modes for stretching learning practice.

	Individual	Group	Organization
Reflection	**Individual reflection**, writing and reading, articulation of experience. *Example*: Reflection report.	**Experience sharing**, class discussion, literature reviews. *Example*: Round-table examination.	**Organizational dialogue**, public presentation, articulation of lessons learned and implications. *Example*: Knowledge theater.
Action	**Individual action**, formulation of action plans, presentation of measures for improvements. *Example*: Learning contract.	**Teamwork**, joint problem-solving, case assignments, project work. *Example*: Live case.	**Organizational action**, sponsored projects, top management assignments. *Example*: Thesis work.

Figure 3: Modes of learning in management education (Berggren and Soderlund, 2008)

Reflection reports: A means to elaborate and summarize individual lessons learned and summarizing implications, at both personal and organizational level.

Learning contracts: A contract for establishing learning objectives and individual objectives of the training program.

Roundtable examinations: A proposed mode to assess knowledge and share experience on the basis of new acquired knowledge.

Live cases: A proposed mode to expand personal experience through program-mediated group-level quasi-experience.

Thesis work: Participants become in-house consultants and identify and investigate problems identified by project stakeholder, project sponsors or themselves and propose solutions.

Knowledge theatres: Periodically events, where project stakeholders and project sponsors discuss and elaborate on key lessons learned.

Due to cultural difference and complexity of projects in oil and gas sector, we have selected *reflection reports, learning contracts* and *live cases*. We selected employees involved in projects, who have also attended project management training.

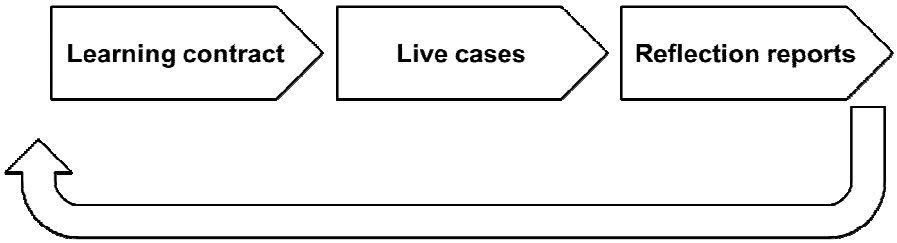

Figure 3: Selected Modes of learning in management education

4.3 The case

Kuwait Oil Company (KOC) Kuwait Oil Company's Responsibilities under Kuwait Petroleum Corporation's (KPC) umbrella involve the exploration, drilling and production of oil and gas within the State of Kuwait. Kuwait Petroleum Corporation's (KPC) is a state-owned company, headquartered in Kuwait City. The activities of Kuwait Petroleum Corporation (KPC) are focused on petroleum exploration, production, petrochemicals, refining, marketing, and transportation. Through its subsidiaries, and as a vital part of the global link of the energy supply industry, KPC contributes to meeting the world's urgent needs of oil and gas products. The company's products have been sold in some countries under a subsidiary's name Q8.

Project Management training at Kuwait Oil Company (KOC) are outsourced to local and international training providers and training requests are approved by KPC.

Project Management is not seen as a sole profession and usually with a technical background and an employee if assigned as a project manager, the main tasks are coordination of projects and there a number of shared-competencies with quality assurance and training department. Most technical employees receive comprehensive training in oil and petroleum field and later on attend project management training, which are mostly based on PMI standards and offered by external institutions.

5. Illustration

The participants were asked to first develop a learning contract, articulating their personal learning goals from. After the life-case sessions, participants were asked to write a reflection report. The main objective of the research was to improve teaching strategic project management.

Learning contract: was based on a clear structure of all elements of strategic project management, especially in project portfolio management and program management. The last question was regarding to the learning approach of the training. The use of a learning contract is closely related to the quality of the reflection reports, and is related to. Learning contracts were designed based on experiential learning model with the emphasis on reflection and implementation measures for the individual and the organization.

Life cases: A live case is a selected project from the organisation and for our study, we selected projects, were most of participants were involved in, which supported to have a holistic view and analysing how procedures and routines are perceived and understood by participants. It also provides the opportunity to analyse the gaps in training for project management, especially strategic project management. A live case is also based on project challenge within the company.

Reflection reports: Participants, who have attended project management training, especially strategic project management, were asked to write a weekly report for the duration of 6 weeks. The participant wrote a report and summarized the tasks; they were involved in during the week, and also reflected and reported on lessons learned from each knowledge theme. They also reflected and discussed the procedures in their company, the gaps to what they learned during theory sessions and how to improve the procedures, also at corporate level and with focus on project portfolio and program management. They also mentioned the shortcomings on theory input they received and suggested an activity list for improving training. This report was based on a template and saved in word.

6. Analysis and Conclusions

We have reviewed current models of project management training and examined transferring ‘‘know how” on knowledge areas and process groups with focus of strategic project management, which are delivered in traditional learning environments and based on instruction.

Programs, which are delivered b external institutions, do not link the strategic project management elements to corporate procedures and strategic project management is trained based on standard literature and experimental learning approach is not applied. This approach might be appropriate for developing of project managers at junior skills, who are not managing complex projects, which are usually linked to strategic goals of an organisation, However, to support growth and development towards master project managers, we propose another approach.

Proposition 1: In order to meet the increasing requirements of complex projects, we need more emphasis on educational models supporting and fostering change, creative and critical reflection and development of strategic skills.

Proposition 2: Most projects on creating competitive advantage, especially R&D projects are candidates for educating project managers in strategic thinking. Project managers need to

learn and practice how to link strategy to deliverables of projects and need to do this in a learning environment that fosters not only critical reflection on theory but also engage in practice.

Proposition 3: Education of strategic project management needs to be designed on experimental learning, applying a combination of different tools and techniques such as live cases and reflection reports.

Proposition 4: Organizations should first develop structural changes for supporting strategic project management such as standard in project management project portfolio and program management, before offering training in strategic project management.

Conclusion: For further research, we will analyze existing organizational project management Capacity/capability assessment tools, such as IPMA Organizational Competence Baseline (OCB) on strategic project management elements and develop a framework, how to apply this for developing training in strategic project management.

7. Limitation

Research limitations/implications: It is recognized that the data gathered in this study focus on KOC in Kuwait. The specific area though, is considered to be representative of the total Kuwait population. The results confirm that project management education programs and training need to be designed and delivered clearly and describe the learning outcomes and the assessment of the skills. The results also confirm that there is an emerging need to integrate project portfolio management and program management as an integral part to project management training and it is highly recommended that the approach is based on experimental learning. Most project managers are not aware of the impact of their projects on organizational strategy and also not involved in the process. There is significant indication that understanding of strategic project management may vary for different project segment and perhaps future research should focus on trainings in different industries, integrating strategic project management into other management training designed for top management.

Practical implications: Although certain similarities in feedback to gaps in strategic project management education has been identified, this paper records the feedback from Oil and Gas sector in Kuwait, and highlights the gaps in strategic project management education. Given the complexity of oil and gas sector, future research should explore the other aspects of educational shortcomings in project management.

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Thinking outside the triangle: Using foresight in project environments to deliver a resilient tomorrow

Marisa Silva

Abstract

To fail to imagine the future is to fail to be part of it. The failure of traditional approaches to planning suggests the need for an alternative underlying paradigm, in which decision-makers are equipped with a holistic and long horizon perspective about tomorrow in order to make better decisions today and deliver future-ready and resilient portfolios. The author claims that a future oriented approach, applied to the realm of projects, programs and portfolios, can be a suitable answer. The paper presents Project Portfolio Foresight as a distinct construct and describes the particularities, impact and limitations of Foresight in the three layers of project environments – portfolio, program, and project. Being a starting point for managers and practitioners interested in how the future can be taken into account for increased gains of resilience in the management of a portfolio of projects, the paper calls for project portfolio management to not just consider current business requirements and constraints but also the future of business and the business of the future.

Introduction

In a time where driverless cars, the Internet of Things or 3D printing are no longer just science fiction, to have the ability to imagine different versions of the future is to be half prepared for it. However, the demanding pace of the market frequently leads decision-makers to focus on the short-time to the detriment of a long view, ultimately resulting in failure to envision game-change disruptions lying ahead. In order to cope with the challenges of the future, companies need to create capabilities of imagination, preparedness and resilience, but conventional long-range planning has proven insufficient and pushes for new solutions. Amongst alternatives is Foresight, a systematic process that makes sense of the future in order to provide decision-makers with strategic options in the present. Despite projects being the de-facto means for introducing change in business and in society (Midler, 1995; Lundin and Söderholm, 1998), making project practitioners to be in a privileged position not just to respond to the future, but to actually create it, literature relating foresight to the universe of project, program, and portfolio management (P3M) is however almost inexistent (Silva, 2015), evidencing an area yet to explore.

Thus, combining the interplay between foresight and P3M, the present paper aims to answer the following question: how can foresight be used in the portfolio, program, and project levels to deliver resilient outcomes and, broadly, a more resilient future?

The structure of the paper is as follows. First, the author completes a literature review to build the case for foresight as an alternative approach to strategic planning. Following, the second section of the paper introduces the concept of Project Portfolio Foresight as a distinct construct and focus on the topic of the future at the three layers of project environments – project, program, and portfolio - showing current streams of research and potential relevant foresight tools and methods. Later, the author elaborates on how the use of foresight can conduct to a more resilient and sustainable tomorrow. Finally, the paper concludes with managerial implications, limitations and suggested avenues for further research.

The case for Corporate Foresight

At present, many organizations struggle to cope with change that can arise from the business environment. Organizations are living on the edge of chaos (Pascale, 1999), recognized to be highly unstable, unpredictable and dynamic. Blockbuster failing to imagine where the Internet and technology would take the movie rental industry, or Kodak not having the foresight to see the emerging trend of digitalization in the photography industry, are real examples of how the inability to anticipate and prepare for the future can dramatically impact the business landscape and survival of an organization. Strategic planning faces a central dilemma: while all strategic decisions are about the future, all the knowledge in which executives rely to make those decisions is about the past (Wilson, 2000), leading some authors (Conway, 2004; Mintzberg, 1994) to claim that there is a fundamental flaw in current planning approaches, where the dominant outlook remains focused on short-term thinking to the detriment of the “art of the long view” (Schwartz, 1991). Also Hamel and Prahalad (1994) share a similar position, supporting that one must be willing to speculate beyond “what could be” and develop imagination capabilities rather than simply a plan of what to do. In response to the failure of current strategic planning practices, foresight, also referred to as Future Studies, is emerging as an alternative planning approach (Slaughter, 2009), being nowadays extensively applied across geographies, industries, and domains (Krawczyk, 2006). Foresight is a multi-disciplinary field, composed of different methods, tools and techniques, whose key purpose is to constructively address the future (Bell 1996). Through analysis, interpretation, and prospection based on inputs perceived in the environment, foresight intends to act today on the implications of tomorrow, in this way informing decision-makers and influencing an organization’s strategy towards future-preparedness (Figure 1).

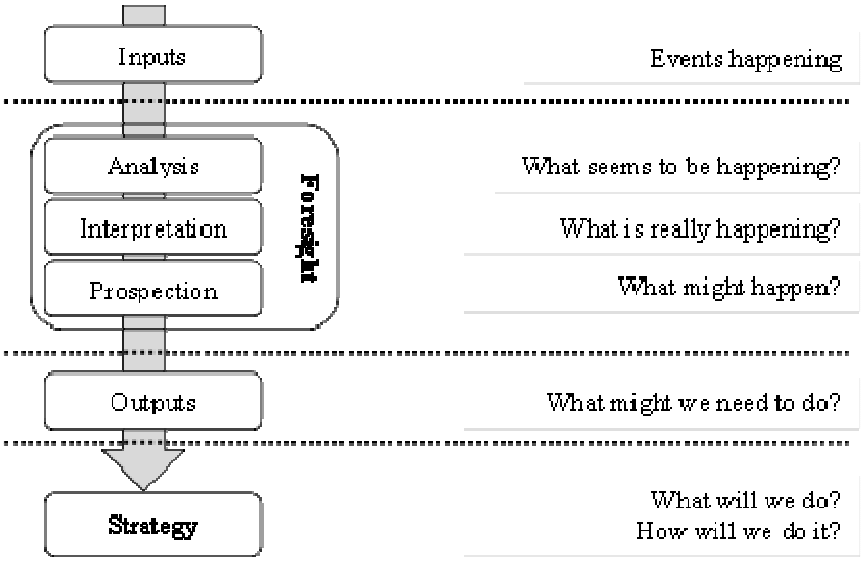

Figure 5 – Generic foresight model (Voros, 2003)

For a better understanding of the concept of foresight is important to clarify that the span of time involved is that of distant horizons. Another fundamental belief behind foresight is that the future is many, not one, that is, the future is not predetermined, but plural and open, shaped by the decisions taken in the present and able to unfold in disparate ways (Dator, 1996; Poli, 2010). The idea that there are several versions of the future may seem difficult to embrace at first since, as humans, we implicitly expect a continuation of the known present, possess unchallenged assumptions about the way we see the world or are simply too worried about today to think of the future. But what if the Schengen area is to be closed? What could happen if a terrorist group dominates Europe? What could be the implications for work as we know it if artificial intelligence advances? Once one conceives that there is room for a range of futures, ones more plausible than others to occur, one is faced with a broader and richer prospect of what tomorrow can bring, as expressed in the cone of plausibility (Figure 2):

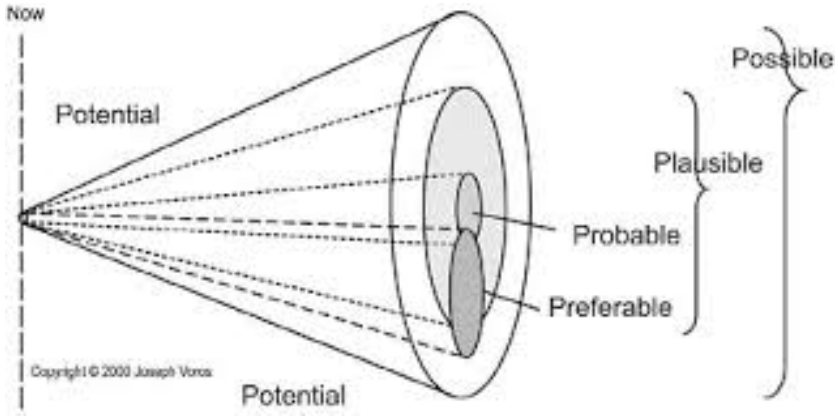

Figure 6 - The cone of plausibility (Taylor, 1991)

- Expected future: the expected future, also designated as probable or official future, represents the collective view an organization have about the future they anticipate to happen, should the environment proceeds as usual. “What is going to happen?”
- Preferred future: the preferred future represents a preference regarding a certain future, being usually aligned towards the vision of a company, that is, what they are working to create; “What do you want to happen?”
- Plausible future: the range of alternative futures that are reasonable to anticipate within the limits of plausibility; “What could happen?”
- Possible future: relate to the various possible ways how the future may unfold, even if not conceivable to take place, that is, the thinking of the unthinkable, “what might happen instead?”

Foresight in Project Environments

If directions for the future are usually positioned at the strategic level, it is however at a lower level that the future is actually delivered: through projects, programs, and portfolios. Projects are, by definition, a projection of an intended future state, playing a pivotal role in shaping, building, and delivering the future of organizations. Despite the close link between the future and projects, suggesting a positive association between foresight and the management of projects, there is hardly any research on the linkage between these two constructs (Silva, 2015) or the scope of research is most of times narrow or lightly addressed.

In this section, it is presented how the future has been addressed in the literature at the project, program, and portfolio levels, describing the potential contribution of foresight, as well as particularities and limitations pertaining to each of the three project environments.

1. Project management

The etymology of the word project -prōiectum ("projection") – clearly suggests its position as a projection of a certain future, a vision that the project aims to achieve. Yet, although the notion of the future is implicit in the nature of projects, it was just until recently, after Shenhar et al. (2001) presented future preparedness as a dimension of project success that the future was formally introduced into the arena of project management. Despite that initial attempt, studies on the topic of the future have been scarce in project management main outlets (Silva, 2015), and can be summarized in three main current avenues of research where the focus has been on future preparedness, the future-perfect-strategy, and risk management and early warning indicators. For the purpose of completeness, each of these research streams is summarized below.

1.1. Future preparedness

When trying to map the different dimensions that compose the success of a project, Shenhar et al. (2001) concluded that the success of a project is no longer evaluated by the accomplishment of the project on time, on budget, and according to specifications but instead is the combination of a set of dimensions that comprise more than just project efficiency, being the result of multiple perspectives developed by multiple stakeholders and over a time frame that expands after the project is finished (Figure 3).

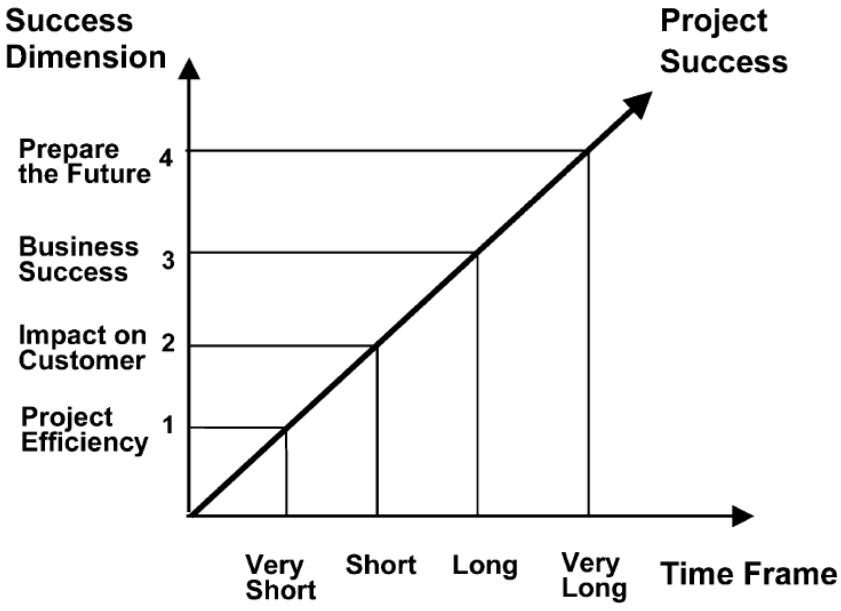

Figure 7 - Project Success over time (Shenhar and Dvir, 2001)

Amongst these dimensions we can encounter preparation for the future as a category of success, where success is perceived to be the extent to which the current project helps prepare the organization for future challenges. According to the authors, future preparedness can include aspects such as the exploration of new markets, technologies, competencies, and

organizational capabilities that may arise after the projects have been brought to an end (Shenhar et al., 2001; Teller and Kock, 2013). Likewise, Silva (2015a) emphasized the role of the project legacy and how it should take into consideration possible requirements of the future if it is to be sustainable over time.

1.2. Future-perfect strategy

While logic dictates that the future follows the present in the natural order of time, Schutz (1967) argues that human action is prompted if starting with the future in mind. This theory, coined future-perfect-thinking, maintains that decisions of the present can be determined by an enactment of the future. By representing the future in retrospective rather than in prospective, Schutz argue that forward-looking projections of the non-yet existent end point can help identifying the required means to get there. The tentative of bringing the future into the present has been expanded to the field of project management by Pitsis et al. (2003), who translated this approach as "future-perfect strategy". While the future perfect strategy approach has proven valid as a way to create a shared sense of purpose and meaning in a project, Kreiner and Winch (2008: ii) concluded that projections are of difficult application in large, complex projects, proven more useful "as ways of rallying political and financial support than ways of providing sound and realistic foundations for implementing projects".

Although the future-perfect strategy is presented as a distinguishable approach, similarities with the technique of backcasting from the domain of Foresight can be perceived, where backcasting is described as involving working backwards from a desirable endpoint to the present in order to determine the suitability of that endpoint and measures required to reach it. (Robinson, 1990).

1.3. Risk Management and early warning indicators

Another fruitful research area is the identification and management of early warning indicators (Nikander et al., 2001; Williams et al., 2010; Haji-Kazemi et al., 2013), where assurance mechanisms such as regular project audits or project health checks are conducted to track indicators identified as warning signs that possible events are imminent. The identification of early warning indicators is associated with proactive risk management processes and is based on the assumption that most discontinuities do not emerge without warning (Wack, 1985), hence, organizations that continuously scan weak signals in their environment would be better prepared to detect and make sense of symptoms and tendencies and consequently respond to risks and adapt to changes. Trend analysis and horizon scanning are two foresight techniques that support this same purpose.

2. Program Management

Despite the flourishing attention that program management has received in recent years, the future hasn't arrived yet to this arena of research. However, if we look further deep, an inherent relationship with the future is at the heart of the management of programs and manifests itself through the emphasis placed in a program's vision. Although a strong and clear vision is recognized as essential either in projects, programs, and portfolios, it is at the program level that this component is more visible.

2.1. Visioning

Programs bridge the gap between strategic objectives and the operationalization of projects and business as usual, being a robust vehicle for organizational change (Bartlett, 2002). The level and reach of change involved in a program tend to be higher and broader than one can encounter in a project, and for that reason a strong vision is said to be essential as a change management and communication tool. A vision can be described as a "postcard from the future" (Managing Successful Programmes, 2011: 54), a picture of a desired future state of the organization, and helps generate a shared sense of purpose around that view of the future which the program aims to design and deliver.

In foresight terms, the importance of a vision of the preferred future can be connected to the visioning technique. Visioning works with values to create compelling images of the preferred future (Bezold et al., 2009), and is based on the assumption that those images can influence present behavior (Puglisi, 2002).

3. Portfolio Management

Along with strategic planning, project portfolio planning forms the basis of how an organization establishes its direction and intends to achieve it. Hence, project portfolio planning is inherently about the future. Yet, few studies have specifically investigated the pivotal role of the future in project portfolio management. Recent research (Meskendahl, 2010; Teller and Kock, 2013; Rank et al., 2015) suggest however that future preparedness is an essential condition for project portfolio success.

Project portfolio planning typically entails a medium to long-term timeframe, making project portfolios to be in a good position to make an effective use of Foresight methods. Among the various tools and methods within the scope of Foresight, scenario planning is suggested to be particularly useful for Portfolio Management (Dye, 2002; Craddock, 2009), where to set the right mix of projects, programs and resources that are resilient to different scenarios is critical to the effectiveness of the strategy of organizations.

3.1. Scenario Planning

Scenario planning is a tool that pictures contrasting but plausible and consistent images of the future in order to support decision-making. By offering several views of how the future may unfold using not simply linear and incremental projections of the present, but disparate hypothesis of the future instead, scenario planning challenges dominant paradigms and proposes alternative exciting narratives able to generate options in the present (van der Heijden, 1996).

The objective of portfolio management is the maximization of value through an effective balance of resources, risk, and return of projects and programs. Hence, in the context of portfolio management, a scenario-based approach is deemed valuable since it "will focus management energies and resources on those projects that will best position the organization to pursue whichever scenario materializes" (Dye, 2002).

From the previous, it should be noted that the relevance of this technique lies in its call-to-action (Slaughter, 2009), that is, in the implications of the scenario planning exercise and the trigger of a management reaction. Drawing on the work of Conway (2004) and Silva (2015a), examples of questions that could help formulate clear implications include:

Questions to consider:
Does the selected portfolio of projects and programs withstand all these scenarios of the future? Where are the threats and opportunities?
What combination of projects and programs would be more aligned with a certain version of the future?
Which set of projects and programs deliver the most suitable balance of risk, benefits and costs if a certain scenario unfolds?
What does a successful portfolio look like in each scenario?
What would work regardless of the scenario?
What would we change in our portfolio if we knew this scenario was going to occur?
Are there actions we could take to create a desirable future, or to move away from a negative one?

Table 1 - Implications of scenario planning in portfolio management

The exposition of how the future is being addressed in the different project environments takes us to the concept of Project Portfolio Foresight as an individual and organizational ability to integrate future-thinking in P3M processes and systematically make sense of the future in relation to portfolios, programs, and projects. Project Portfolio Foresight implicates areas and processes within P3M differently, and the relevance of methods and tools from

Foresight to the field of projects is dependent on the environment concerned as shown below (table 2):

	Project	**Program**	**Portfolio**
Planning horizon	Short-term	Short to medium term	Medium to long-term
Result	Outputs	Outcomes and benefits	Value
Certainty of the outcome	Relatively certain	Uncertain	Highly uncertain
View of the future focus	Expected future, Future preparedness	Preferred future	Alternative futures
Current streams of research related to Foresight	Future-perfect strategy, Risk management and early warning indicators	Visioning	Future preparedness, Scenario Planning
Applicability of Foresight	Limited applicability	Applicable	Significant applicability
Examples of Foresight tools	Early warnings, Visioning	Visioning Backcasting	Scenario Planning, Trend analysis, Horizon scanning

Table 2 – Foresight at the project, program, and portfolio levels

Although Foresight tools are considered of limited applicability at the project level due to projects common short-term perspective, it should be noted that it is the legacy of a project which can make the most relevant use of Foresight (Silva, 2015a) of making room for the requirements and constraints of the future in order to enable robustness over time. Also, while megaprojects are not covered in this analysis, it is reasonable to suggest that benefits can be identified regarding the use of Foresight, due to their long time span and life expectancies.

While Foresight can inform today's project decisions to better respond to the challenges and needs of tomorrow, this is not to say that projects should be suddenly stopped based solely on a hypothetical scenario of the future, though but rather to reinforce that organizations should encourage future thinking and, where possible, incorporate flexibility during project planning and design stages (Cairns, in Blyth and Worthington, 2010) if they are to pursue future preparedness and resilience.

Building a resilient tomorrow

The topic of resilience has received growing attention as a response to challenges as diverse as natural disasters or financial collapse. Resilience has been broadly defined as "the capacity to anticipate risk, limit impact and bounce back rapidly through survival, adaptability, evolution and growth in the face of turbulent change." (Prieto, et al, 2015). In the context of projects, resilience is yet a novel field of research. According to Kutsch and Turner (2015), the road to project resilience entails five key stages, from the scanning of signals of change in the environment (noticing), to the understanding of those signals (interpreting), planning of responses (preparing), reduction of damage when the change occurs (containing) and, finally, the adaptation to the new reality resulting from the unexpected crisis (recovering).

While the concept of foresight is just elusively referred to in Kutsch's research on project resilience, parallels with a generic foresight model are evident. A direct relationship between the two constructs is visible in a pre-crisis scenario (Figure 4) where to notice and make sense of the signals of change and to consider the implications of those changes in strategic planning is typically part of the future-oriented approach followed in foresight. Although there is not a direct link in a foresight process to the containing and recovering steps, one may argue that this would be facilitated as a natural consequence of being future-prepared, in these ways conducting to increased gains of resilience.

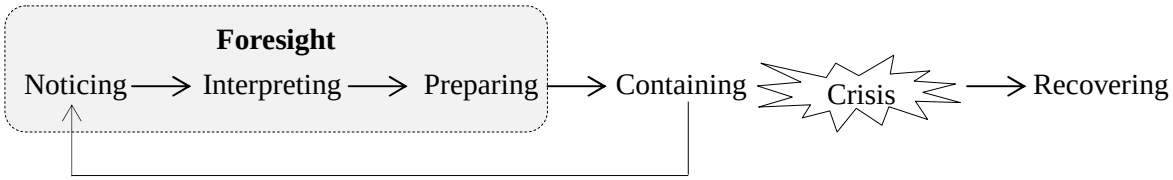

Figure 8 - The intersection between foresight and resilience

By promoting a systematic exploration of futures, foresight in general and the method of scenario planning in particular, plays an important role in developing imagination capabilities (Weick, 2006), as well as in putting people thinking together about different scenarios of the future, igniting their long-term radar. In the same way individuals are required to think "outside the box" and come with innovative approaches when confronted with unexpected situations, project professionals too are asked to think "outside the triangle" of cost, time, and scope, and instead embrace a holistic and long-term perspective on their projects, where different versions of the future can impact not just the immediate setting of their portfolio of projects but also their sustainability over time.

As a result, Foresight enables the agile identification of the driving forces in the environment, as well as long-term opportunities and threats, allowing for the anticipation of and readiness of organizations to cope with change (Oner & Gol Beser, 2011). By providing organizations with the opportunity of rehearsing diverse versions of the future, organizations can establish guidelines and preparedness measures against disruptive changes, and act in anticipation when perceiving to be in front of a scenario that shows signs of starting to unfold.

Additionally, scenarios allow new strategies to emerge and existing ones to be tested in advance, thus increasing confidence in the strategic planning and in the long-term robustness of the portfolio of projects, making the argument for future-ready organizations being an enabler for future-resilient strategies and project portfolios. In fact, it is impossible to know with certainty what the future will be like, but this paper argues that future thinking combined with present action can equip organizations with sufficient preparedness and flexibility to respond to different futures, ultimately leading to anticipatory resilience as a competitive advantage. However, it is not just projects that are impacted by the future. The future is also impacted by projects, which in turn shape and deliver the future. The future is thus a two-way route (Figure 5), where resilience and sustainability walk hand in hand.

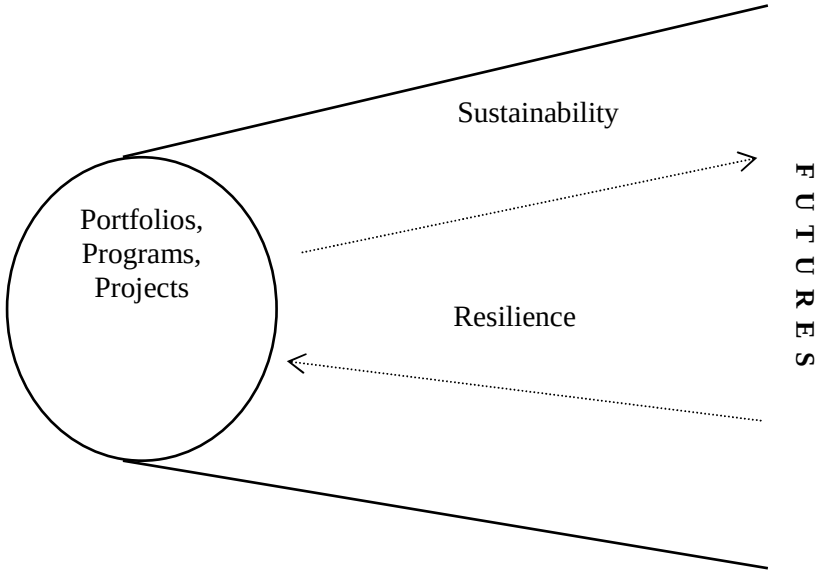

Figure 9 - The push and pull models of the future

As Cornish puts it, “the future does not just happen to us; we ourselves create it by what we do and what we fail to do. We are, in fact, shapers of destiny - our own and the world’s” (in Murtha, 2010: 79). This view is aligned with the growing field of sustainable project management, which claims that project professionals are well positioned to make strong positive contributions towards a world that meets current and future generation’s needs (Silvius et al., 2012). Bearing this in mind, future thinking calls for practitioners and decision-makers working on projects to claim an active role towards the future by expanding their horizons in terms of reach, time and possibilities. Starting with the end in mind, project professionals are now required to take the responsibility of future preparedness – building foresight and resilience capabilities into their portfolio of projects in order to anticipate and respond to different versions of the future, and designing and delivering a preferred vision of the future through the incorporation of sustainable practices and principles into the management of projects, programs, and portfolios.

Conclusion

This paper brought the topic of the future as a discrete and explicit phenomenon into the forefront in order to initiate a conversation about how ideas about the future can impact the selection, conception, and delivery of a portfolio of projects in the present. Although the application of foresight in the sphere of projects has limitations that need to be acknowledged, by being an ability to "think outside the triangle" and make decisions in reference to and in the context of the future, project portfolio foresight emerges as a fundamental tool for responsible project management practitioners who are interested in gains of resilience and sustainability. While further empirical research is needed, project portfolio foresight aims to inspire a new way to observe and theorize the practice of P3M using the lens of the future.

Recommendations for research include the study of the extent to which foresight can be applied to different industries and types of projects since diverse planning horizons can potentially lead to different degrees of flexibility (e.g. infrastructure vs IT). Also, this study calls for future efforts to develop specific tools for project portfolio foresight and opens new directions for further investigation on how foresight can be applied in practice in projects, programs and portfolios.

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Workshop report Theme 4: Strategic Project Management

Moderation and Report: Mladen Vukomnovic

1. Introduction

The team focused the discussion mainly on three points that appeared more relevant after the seminar presentations and an initial brainstorming:

- Re-defining the role of project sponsor;
- Re-defining the role of project manager;
- Difference between deliberate and emerging strategies.

The following participants were interested in the topic and joined the session:

Raphael Albergarias Lopez (Brasil), Samuel Barros (Brasil), Maria do Rosario Bernardo (Portugal), Arnar Björnsson (Iceland), Andrew Burns (Germany), Joel Carboni (United States), Dalibor Cron (Switzerland), Peter Milsom (Canada), Katrin Reschwamm (Switzerland), Ivars Rungis (Latvia), Marisa Silva (United Kingdom), Tom Taylor (United Kingdom), Rodney Turner (France), Mladen Vukomanovic (Croatia), Reinhard Wagner (Germany).

2. Discussion

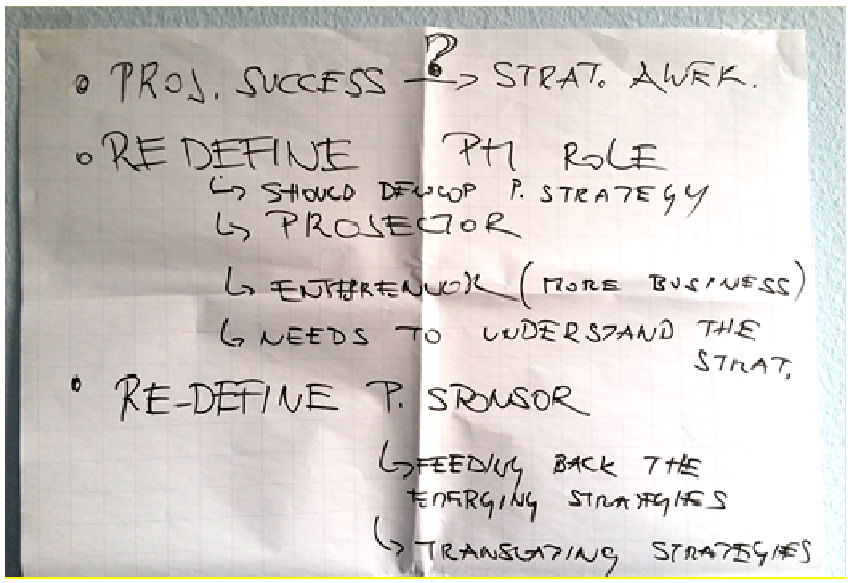


Figure 1: Re-defining the roles

2.1 Project Sponsor

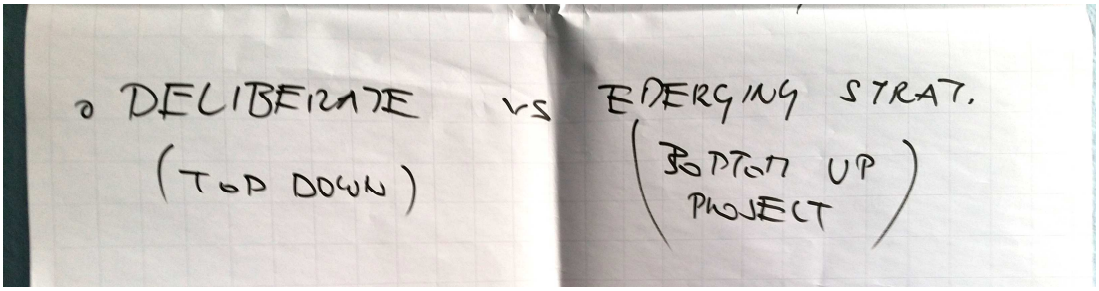
There seems to be a need to re-define or re-event the role of a person which would convey the strategy to the project team, but also sense the emerging strategies triggered by the project. While some experts think it is the project sponsor, others argued it could be the programme manager. All have agreed this topic needs further discussion and work.

2.2 Project manager role

There seems to be a need to re-define the role of project manager. Everyone agreed the current PM role has become more administrative and less leading, managing and strategic. Reinhard Wagner even suggested the name “project manager” should be renamed to projector, as it once was – the one who envisions...

All have agreed this topic needs further discussion and work.

2.3 Deliberate and emerging strategies



3. Some findings

An organization needs to discern between the business, organizational and project strategies. Furthermore, Rodney Turner argued that an organization needs to understand the difference between the emerging and deliberate strategies. The first are enforced by the top management (top-down). The latter emerge from projects and programmes (bottom-up).

All have agreed this is relevant for re-defining the roles of Project Sponsor and Project Manager.

The Meaning and Making of the IPMA Code of Ethics and Professional Conduct

Helgi Thor Ingason, Haukur Ingi Jonasson, and Olof Embla Eyjolfsdottir

Abstract

The lecture will illustrate the making of the IPMA Code of Ethics and Professional Conduct issued by IPMA in 2015; the reasons for making the document and the process of making it will be laid out. Further, some essential results from global survey sent out to all IPMA member associations will be shown and they interpreted. Some of the many challenges the authors faced when writing the document and criteria for tackling them will also be explained.

Keywords

Ethics, code of ethics, professional conduct, project management, IPMA

1. Introduction

Professional project managers become professionals through their education, training and practical experience. Their knowledge, skills and competences are intended to benefit both the projects they undertake, as well as the project owner. Their services are contracted: they provide their expertise, and the project owner remunerates them. This places special duties on the project manager towards their clients; and commits him or her to a mission defined in terms of the project owner. Their commitments are, however, more multi-faced than this. If everything is done correctly, then the project manager also takes seriously his or her responsibilities towards themselves, their teams, the host organisation, and the wider communities within which they conduct their work. This complexity, which can become very baroque, demands that if project management is to become a firmly established profession, its professional practitioners need to live up to professional values, norms and ideals. A well-defined, profession-specific, code of ethics and professional conduct can guide the project manager—or should we now say the professional project leader—when he or she navigates the grey-shaded territories of moral and professional integrity. Furthermore, in modern economies project managers manage a very large portion of the economy and the global economy - often in very ethically challenging environments.

The International Project Management Association (IPMA) is a global umbrella association that consists of national project management member associations in countries all over the world. For individuals who want to climb the ladder of professionalism as IPMA certified project managers, the first step is usually to pass the IPMA D level certification. In this examination the candidate needs to demonstrate understanding of both key concepts and

competences of project management as defined by the IPMA. All of these concepts and competence elements certainly have either explicit or non-explicit moral and ethical implications; and many are normative with regards to what to do and what not to do. The IPMA Competence Baseline (ICB) also addresses ethics specifically as one of its behavioural competences. However, even though the ICB touches, either directly or indirectly, upon a variety of moral values and ethical themes, it has not completely stood up for what a unifying code of ethics and professional conduct should do.

The need for an IPMA Code of Ethics and Professional Conduct has become more and more apparent and is therefore a natural and necessary step in the maturation of IPMA as an international community of committed professionals. The making and approval of such a document, if well done, could unify IPMA under the flag of professionalism and suitable dedication, guide its members in ethically challenging situations, and better equip them to conduct their business in a manner that their peers regard as right, just and in accordance with best practice.

This paper describes the process that was used to develop a Code of Ethics and Professional Conduct for the IPMA. The development took place between June 2013 and March 2015. The purpose of the project was to provide IPMA Member Associations (MAs) and individual members with guidelines on ethically suitable bearings in a range of circumstances relevant to project management professionals. This paper describes the methods applied in the development of the IPMA Code of Ethics and Professional Conduct with the aim of making a document that would reflect unanimity within the global IPMA community.

2. Historical background

Many professional societies have committed to a profession-specific ethical code. However, there is relatively little literature on the process of writing such a code, and even less on the history of professional codes of ethics. According to Davis (2003), the first formal code of ethics concerned the medical profession, although it is arguable which of several ethical codes from the mid-19th century to the start of the 20th should be accurately considered as the first. As early as 1908, the American Bar Association defined for its members a code of ethics, which could also, depending on the criteria used, be considered the first formal professional code of ethics. Since then, many professions have followed in this pursuit and defined ethical codes relevant to their own members.

Davis (1999) recounts examples of how professional societies developed their codes of ethics. These include the Association of Computing Machinery (ACM), the Computer Society of the Institute of Electrical and Electronic Engineers (IEEE CS), and the National Association for the Education of Young Children (NAEYC). In terms of the processes for writing these codes, there are obvious similarities. A limited group of people carried out the preparatory work and, in most cases, wrote the first draft of the code itself. A skilled writer

then gave the work coherence, but in all cases the people expected to follow the code were brought into the process as early and as often as possible.

As project management has its roots in civil engineering, it is worth taking a closer look at the structure and development of professional ethical codes within that field. The American Institute of Electrical and Electronics Engineers (AIEE) adopted its original code of ethics in 1912, although its origins can be traced as far back as 1906 (Pugh, 2009). The current code, which is a shortened version of the code adopted by the IEEE (of which the AIEE became a part) in 1974, provides instructions that aim to safeguard the professional integrity of engineers, protect the public, and maintain technical competences.

Gotterbarn (1999; see also Davis, 1999) describes the process involved in the creation of the "Software Engineering Code of Ethics and Professional Practice", commissioned by the Association for Computing Machinery (ACM) and the IEEE's Computer Society (IEEE CS), intended to apply to all software engineers, regardless of affiliation. First, a draft was delivered to the steering committee for the code in December 1996. The draft was then widely circulated within the association in the first months of 1997. It was then further circulated to industry in 1997 and published for preliminary voting in November 1997. Based on the votes, a revision was submitted to the steering committee at the end of 1997, and a formal technical review process was made in September 1998, followed by a legal review. Finally, the code was officially approved by the ACM and the IEEE CS in November and December of 1998, respectively.

The National Society of Professional Engineers in the USA issued its original code of ethics in 1946. It has been modified and the present version is both comprehensive and addresses a variety of issues, ranging from professional behaviour to professional development. The history of the code is described on the web page of the NSPE. The original version was prepared by a joint committee sponsored by the Engineers' Council for Professional Development, a coordinating body of technical and engineering societies. Since then, there have been a number of revisions. The process for developing these revisions is not described, but all of them have been approved by the society's board.

Codes relating specifically to project managers

In comparison with the previously-mentioned codes, the history of ethical consideration within the project management community is shorter, although awareness of the ethical issues faced by project managers has grown in recent years. Some national associations of project managers have published codes of ethics for their members. For example, the British APM has issued a code of professional conduct which states that "professional standards and ethical behaviour relate to proper, acceptable conduct" (APM, 2014; 2.1), and goes on to list a variety of duties towards different stakeholders. However, not much information is given on how this document was developed or on when it was first adopted. It simply states that the code is maintained by the professional conduct committee on behalf of the board of APM, that the document was developed in consultation with people both within and outside the profession, and that it has been approved by the APM´s general meeting.

The Project Management Institute´s (PMI) Code of Ethics and Professional Conduct can be found on its web page. The code applies to PMI members, non-members who serve the PMI as volunteers, and non-members who hold a PMI certification. The code revolves around four basic values: responsibility, respect, fairness and honesty. The process for developing the document is well-documented. An Ethics, Standards and Accreditation Group was formed in 1981, though a first version of the code wasn´t approved until 1998. More recently, a major revision was approved at the end of 2006. The revision was made based on a process defined and approved in 2005 with the objective of encouraging active participation by the global project management community. This was accomplished by different mechanisms, e.g. focus group discussions and two internet surveys involving practitioners, members, volunteers, and PMI certification holders.

For the IPMA , before the new IPMA Code of Ethics and Professional Conduct was published in 2015, no formal information could be found online as to whether the association had ever developed, approved or published a code of ethics or professional conduct. However, through more informal channels, we learned that a few attempts had been made and we were given some informally-drafted IPMA documents that showed these attempts. The first was a document from 2008 entitled “IPMA Ethical Guidance for Member Associations and IPMA Code of Individual Professional Conduct”. In addition, three documents dated 2011 and named “IPMA Guidelines for Code of Individual Professional Conduct”, “IPMA PM Consultant Code of Professional Conduct" and “IPMA Ethical Guidance for Member Associations” were discovered. These documents are quite similar to each other, addressing professional responsibility, principles, values and rules of behaviour that should guide project management professionals to contribute to the wellness of key stakeholders and respecting the rights of all constituents affected. However, all these documents were "works in progress" - roughly drafted, unedited, and lacking in structure. No information is available about any kind of process for developing these documents and they are not based on any kind of global consensus within the IPMA.

3. The Creation of a Code of Ethics and Professional Conduct for IPMA

3.1. Proposed process

The IPMA is a federation of 55 national project management member associations (MAs). The highest decision-making body of the IPMA and the steering committee of the association is the Council of Delegates (CoD). Each MA nominates a representative — and a substitute — who attends CoD meetings twice a year. The Executive Board (ExBo) is responsible for the management of the IPMA, e.g. organising all internal administration, assessing new candidates for membership, and representing the IPMA at all external event. The ExBo consists of a president, six vice-presidents, an executive director, the CoD chairman and an assistant to the president, and the executive director. Five management boards within the IPMA support different activities, services and the ongoing development of the IPMA. One of these boards is the Research Management Board (RMB).The RMB is led by the vice-

president of awards, research and standards, and consists of the RMB board chairman and five board members.

In the spring of 2013, the IPMA RMB was assigned the task of devising the development of a formal IPMA Code of Ethics and Professional Conduct (hereafter "the Code"). The first author of this paper—who is a member of the RMB—took on this project on behalf of the RMB; and a team consisting of all the authors of this paper was formed. The overall aim was to draft a document that reflected a global consensus within IPMA; this, we hoped, would demonstrate the breadth of IPMA and ensure that the Code would be useful to practitioners. To do this we designed a global survey to collect data from members of the IPMA MAs world-wide. We also consulted IPMA project management experts from different fields and regions to advise directly on the Code's development.

The main elements of the initial project plan were as follows:

1. All available and relevant documents from the IPMA and other project management associations were to be carefully studied in the initial desk research, including but not limited to, all the documents mentioned in the chapter "historical background" in this paper.
2. The findings of this initial research was then to be the basis for a workshop of CoD delegates at their regular semi-annual meeting in Dubrovnik, Croatia, in September 2013. The main purpose was to find out what the CoD thought of the findings. In particular the IPMA documents from 2008 and 2011were to be examined. The participants in this workshop, and CoD members who showed interest in the project but were not present in Dubrovnik, were to form a review group for the project.
3. After this, all the findings to date were to be used as the input to a draft questionnaire for a survey of the IPMA global community. Before sending the survey out, it was to be tried on the review group (CoD members).
4. A web-based world survey to be sent to the IPMA global community was then to be launched. Its purpose was to gather relevant viewpoints and to assess a variety of insights and opinions about ethical considerations within the IPMA and for PM practitioners. The objective of the survey would be to capture the IPMA members' approach to thinking about ethical issues, those issues prevalent within the PM community, and finally, the type of Code of Ethics IPMA members would find most useful in dealing with these issues.
5. Common themes from basic data gathering were to be laid out and carefully defined, and the intermediate results would be presented to the CoD (at its regular meeting, then held in Toronto, Canada).
6. The final step would be to refine and write a final draft of the Code based on results from the global survey and get feedback from the CoD. This would be followed by the formal hand-over of the final draft of the Code from the project group to the CoD, which would then decide the next steps.

3.2. Actual process

The actual process was not entirely according to the initial project plan. The actual process of writing the IPMA Code of Ethics and Professional Conduct was as follows:

1. Desk research of relevant professional codes of ethics and available drafts of documents according to the proposed plan was carried out.
2. Findings from the desk research were presented to a workshop of CoD delegates in Dubrovnik in September 2013. At this meeting the project was formally presented to the whole CoD and a total of 14 CoD delegates attended a specific workshop on the subject and were formed into an ongoing review group for the project.
3. All the findings so far were used to draft a questionnaire to gain information from the IPMA global community on the need for an ethical code, how it should be used, how detailed and specific it should be, and how it should be implemented and enforced. Along with this, the project team asked a variety of questions on ethical issues, how they were practised, and how they should be practised. The survey was tested on a group consisting of the RMB and the review group, which then merged and thereafter functioned as a review team.
4. A web-based world survey in the IPMA community was launched. It was aimed at gathering relevant viewpoints and assessing a number of variables. Each representative in the CoD was asked to appoint at least 5–10 representatives from his/her country to act as participants; they should be both males and females, ideally in equal numbers; considerable project management experience was required; and an international project management certification would be preferred. The participants needed to be willing to participate in a 20-minute online survey (Survey Monkey). A total of 225 people answered the survey, 56 females and 169 males. The age composition was 60 years and older (15%), 40 to 59 (60%), and 39 and younger (25%). The highest number of answers came from Mexico (17), Italy (16), China (14) and UK (13). All of the participants had considerable project management experience - most commonly 11-15 years' experience (20.4%).
5. The results from the survey were analysed and the intermediate results were presented to a CoD workshop at their regular meeting (Toronto, Canada, March 2014). Out of the workshop, which was attended by 10 CoD representatives, came valuable feedback and input for the Code.
6. Consequently, a first draft of the Code was written and presented for debate at a workshop held in connection with the CoD regular meeting in Rotterdam, Holland in September 2014. This workshop was attended by 4 participants of the CoD meeting and a few other experts interested in the topic.

7. Based on the feedback from the Rotterdam workshop, the Code was shortened significantly and a second draft created. This draft was sent to the RMB/Review group for review and a very good feedback was received; a total of 20 people sent their formal review.
8. Building on the feedback received on the second draft, a final draft was created by the project team and delivered formally to the ExBo at the end of 2014.
9. The ExBo approved the final draft of the Code in late January 2015 and it was presented by its authors at the CoD meeting in Dublin in March 2015.

4. Discussion

The difference between the proposed and actual process can be divided into four main categories.

- Firstly, as the project team progressed according to the initial plan, it became more and more apparent that we needed intermediate approvals of outputs along the way. This had only partly been taken into consideration in the initial plan. We realised, for example, that the content of the global survey needed to be formally approved before it was sent out. This naturally meant that the ExBo needed to take a more active formal part in the process than anticipated.
- Secondly, the engagement of the CoD was more extensive than initially planned. A third workshop for the CoD was added to the initial plan, and all workshops gave valuable feedback into the iterative process of writing the Code.
- Thirdly, the world survey was defined in more detail in terms of how to organise and execute it. This was only briefly considered in the initial plan but in preparation for sending out the survey, it turned out to be important to define quite specifically how to engage and motivate member associations to participate in the process, distribute the survey, and motivate their representatives to reply.
- Fourthly, the governance structure for the process was somewhat simplified when the RMB and the review group were merged. In practice, the RMB became part of the larger review group.

Taking into account the shared understanding and the experience of other associations, the project team decided that the best strategy for developing a Code that would provide helpful and practical guidance to practising project managers, and make people use it, would be to obtain wide participation within the IPMA community. This was not an easy task, as the IPMA is an umbrella organisation; an association of many member associations. However, we did our best by frequently asking for input from experts, by using workshops with CoD representatives from IPMA member associations from different parts of the world, and through a web-based survey to collect information from the wider IPMA global community. The process of making the Code was extensive and took time, precisely to meet the need for

wide participation and constructive dialogue. In retrospect, the timeline was more or less according to the plan and the final draft was delivered by the end of 2014 as planned.

Some challenges presented themselves during the preparation and the writing of the Code. In particular, there was some disparity in responses among the MAs in the web-based survey, with several countries being represented by several participants, while others did not take part despite repeated encouragement. Nevertheless, the MAs with the highest rates of participation were spread quite evenly across the continents in a manner which could be fairly said to represent the IPMA as a whole.

Another challenge related to the level of detail present in the Code itself. During the review process following the first draft, opinions differed on how high the standard should be set and to what extent the Code should make allowances for perceived situational necessities, e.g. with regards to workers' conditions. The final version attempts to make some such allowances where absolutely necessary, but by and large assumes high standards and requires the profession to step up where it is lacking, rather than accommodate practices which should be abandoned.

Despite some nuances, the overall process is perceived by us, the authors, to have been successful overall and sufficiently critical as to bring needed consensus into the work. In the end, the actual process was quite similar to the one proposed, although an even greater emphasis was put on as wide participation and engagement as possible. This focus mirrors the limited literature we have found on similar projects, as described by e.g. Davis and PMI. It is our impression that wide participation was a key factor in the successful development of the Code, especially the constructive discussion and criticism during workshops and critical reviews by experts. The closer we got to the end, the more positive the reviews became. We were therefore confident of the importance and meaning of the work when we handed in the final draft of a new IPMA Code of Ethics and Professional Conduct to the IPMA ExBo. The new Code is constructed on a fairly wide consensus within the IPMA global community and tackles all the critical insights collected in the process. It is the our sincere hope that the IPMA Code of Ethics and Professional Conduct will gain wide momentum and help IPMA, its member associations, and individual practitioners to professionally flourish on the mission to make the world a better place to live in.

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About IPMA®

Moving Society Forward

IPMA is a Federation of over 60 Member Associations (MAs). Our MAs develop project, programme and portfolio management competences in their geographic areas of influence, interacting with the practitioners and developing relationships with the corporations, government agencies, universities and colleges, as well as training organizations and consulting companies.

Our Vision

IPMA is the leading authority on competent project, programme and portfolio management (PP&PM). Through our efforts, PM best practice is widely known and appropriately applied at all levels of public and private sector organizations. IPMA's vision is to Promote competence throughout society to enable a world in which all projects succeed.

IPMA History

IPMA is the World's first project management association, founded in 1965. Our MAs collaborate to advance our profession's achievements in project and business success. Evidence of our strategic vision, our prior name was INTERNET, which we changed to IPMA®, International Project Management Association, in the early 1970s.

How We Run IPMA

IPMA is member-driven, and volunteer-staffed. Our IPMA boards and MAs are filled with experienced project, programme and portfolio management practitioners. As a geographically-distributed organization, we collaborate on an ongoing basis, holding board and council meetings regularly around the World. This "collaborate globally, serve locally" approach to serving PP&PM is unique to IPMA.

Answers

Our Federation style of organization does raise questions. Our member-driven decentralization differs from other, top-down organizations. Our governance structure, with decision-making at the national level, is a great strength in serving local needs, while moving forward the practice of competent project, programme and portfolio management.

IPMA's Mission

- Facilitate co-creation and lever the diversity of our global network into benefits for the profession, economy, society and environment.
- Offer know-how, products and services to the benefit of individuals, projects and organisations across public, private and community sectors.
- Recognize, respect and build on diversity as the foundation for a global network.
- Maximise the synergies in our global network to help all member associations develop according to their needs.
- Promote the recognition of project, programme and portfolio management and engage stakeholders around the world in advancing the discipline.

IPMA Initiatives

IPMA actively promotes competence in project, programme and portfolio management for individuals, project teams, businesses, organisations and government agencies around the World. To increase the recognition and effectiveness of the profession, we:

- Are leading the evolution of the project, programme and portfolio management profession, directed to the performance agreed with the stakeholders,
- Certify project managers competence-based in a wide range of domains and specific roles,
- Seek to highlight, improve and increase the technical, personal, social and contextual competences of our professionals, a key prerequisite to the success of our initiative,
- Recognise and award excellent and successful project teams, research projects, and individuals,
- Certify the PP&PM competence of entire organizations,
- Maintain alliances with those having complementary visions,
- Support and register basic and advanced PP&PM education and training,
- Acknowledge and further develop the competence of emerging young professionals, and
- Offer distinctive and useful project management presentations, discussions and publications.

Growing IPMA

IPMA® has spread from Europe to Asia, Africa, the Middle East, Australia, and North and South America. The demand for our products and services and the number of our Member Associations is steadily growing. Through IPMA, project, programme and portfolio management practitioners and academics from all cultures and all parts of the world can network, share ideas, and move our practice and our stakeholders forward through effective collaboration and cooperation.

Future Trends in Project, Programme and Portfolio Management

Proceedings of the IPMA® Expert Seminar 2016 in Zurich

On 18th to 19th February 2016, spm (Swiss Project Management Association) organised an IPMA International Expert Seminar at the HWZ Zurich. This event followed a tradition of the 1970's and 1980's, when an annual Expert Seminar on Project Management took place in Zurich. After the successful revival in February 2008, IPMA® Expert Seminars were held again in the years 2009, 2010, 2011, 2012 and 2014.

In the Expert Seminar 2016 four new themes were offered, the fourth theme was chosen and managed by the IPMA® Young Crew.

These ***Proceedings*** include all papers that were accepted for the event, and the summaries of the workshop results.

- The project owners, system managers and users should practice and own the entrepreneurial aspects and the project managers should have a sense of business.
- The governance of the project, programme and portfolio management and the governance of projects are top subjects for organisational management and competence.
- The basic Triangle and the related processes are relevant but additional approaches like systemic, sustainable, agile, resilient and human resource orientation increase the probability that all projects succeed.
- Just knowing that the management board has or is about to have strategic goals will not help the lower level managers in understanding their role and how they can contribute to realise strategies.

The participants' feedback was excellent. It confirmed that these seminars are the melting pot for innovation, new ideas and novel methods in the field of Project, Programme and Portfolio Management.

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