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Graduate School of
Technology Management

Project
Management
Group

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Background

The Project Management Group (PMG) was established in 1998 at the Department of Engineering and Technology Management at the University of Pretoria to develop and offer a Master's Degree in Project Management (MPM). It subsequently expanded training to one-year certificate programs as well as multiple short courses in the field of project management.

In addition to training, the PMG participates in national and international activities related to the enhancement of project management as a recognised and effective management discipline. These activities include the establishment of project management competency criteria, active involvement in the various ISO 21500 standards and guidelines, as well as attendance and presentations at national and international conferences. As part of its post-graduate offering, various research activities take place in the form a Masters and PhD dissertations. The research not only provides the opportunity to investigate and master specific areas of project management but also adds to the understanding, comprehension, and contribution to the field of project management.

> **Project management continues to be one of the most sought-after skills in the modern professional society.**

The Masters in Project Management (MPM) at the Graduate School of Technology Management is the only such program that has obtained the Graduate Accreditation Centre (GAC) from the Project Management Institute (PMI).

Education and Research Alignment

The educational content of the Masters in Project Management (MPM) focuses on FOUR main aspects.

The INITIAL FOCUS is on the fundamental aspects of project management and covers subjects such as:
- Project Planning
- Finance and Cost Management
- Project Organisation
- Procurement and Contract Management
- Risk Management
- Quality and Integration Management

The SECOND FOCUS area is specialisation. Learners must choose one of three mandatory subjects which are:
Construction Management, or Information Technology and Service Management, or Project Systems Engineering

The THIRD FOCUS area is electives with learners being able to select two form the following subjects:
- New Ventures and Entrepreneurship
- Legal Aspects
- Sustainability
- Commercialisation and Intellectual Property
- Knowledge and Info Management
- Programme and Portfolio Management
- Systems Thinking
- Industrial Marketing
- New Product Development

Finally, learners need to CONDUCT A RESEARCH PROJECT on a self-selected topic or as advised by a study leader. The intent is that a topic should be in the field of the learners' interest and contribute to the mastering of a field in project management. **At the GSTM various fields of interest are research as explained in the following paragraphs.**

The Project Management Success Model
Linking communication, trust and collaboration in waterfall and agile IT projects

Dr Taryn Bond- Barnard

Project success is the goal of every project. Most efforts to improve project success have focussed on the parameters of time, cost and quality in traditional waterfall projects.

A previous study determined that increased trust between team members positively influences the degree of collaboration which subsequently makes project management success more likely. However, few studies have investigated the indicators of quality communication and this construct's role in determining the level of trust, degree of collaboration and perceived success of a project. It is also unclear if the role of communication in determining trust, collaboration and project management success differs between agile and waterfall I.T. projects.

COMPUTER-MEDIATED COMMUNICATION IN PROJECT MANAGEMENT

The importance of good communication to achieve project success is frequently outlined in literature.

There has also been a significant increase in project communication research in recent years. However, the topic is still minimally represented in research in comparison to the other Project Management Body of Knowledge (PMBOK) knowledge areas. The growing popularity of computer-mediated communication (CMC) and social networking platforms such as Twitter®, Facebook®, Whatsapp®, YouTube®, Skype® and Instagram® may be changing the way in which people communicate in, on and about projects. Our research aims to investigate the influence of computer-mediated communication and social networking platforms in projects and on project management as a discipline.

Project Knowledge Management

Mr Corro van Waveren

Due to the complex, unique, and temporary nature of projects, project-to-project knowledge transfer is regarded as challenging and is currently an active topic in project management research. It has attracted attention from both practitioners and academic scholars.

The complexity of project-based environments is rooted in the execution of multiple projects sequentially and/or concurrently utilising multiple temporary teams within or across organisations. It is this discontinuous and temporary nature of teams that create problems for the rapid assimilation of new knowledge.

Research in the field of Project Knowledge Management focusses on factors that influence the sharing of knowledge along the knowledge network between projects. The mediating and moderating effects of knowledge transfer mechanism, the measurement of knowledge use. Knowledge types used in projects, post-project learning, knowledge sharing processes and models, knowledge capturing at stage-gates and other related topics.

Project Portfolio Management

Prof Herman Steyn

Research in project management normally aims at improving the management of projects; doing projects "right".

It is wasteful to do the "wrong" projects in the "right" way. The purposes of Project Portfolio Management is to develop, from the organisational strategy, a set of the "right" projects for the organisation. Portfolio management therefore links to strategic management. It is also inextricably interwoven with the phased planning of projects, especially planning of early project phases; assessment of individual projects and project feasibility; project screening; comparing and selection projects; development of balanced sets/portfolios; high-level resource planning; detailed planning and execution of individual projects; and the assessment of the business impact of individual projects. While a large body of knowledge already exists in this field, organisations still find it difficult to implement strategies via projects. Students interested in research in this field need to have access to executives involved in portfolio decisions.

Project Management Offices

Project management offices play an important role in the management of projects within many project-based organisations.

There is a variety of supportive roles and functions that Project Management Offices (PMOs) play in project management and in project portfolio management. Knowledge management in project environments is a focus area of the GSTM and the role that PMOs play in this regard is currently investigated.

Stakeholder Management

Project success depends to a large extent on the involvement of stakeholders. The role of the executive sponsor in megaprojects is currently investigated.

Vertical and Horizontal Leadership

Leadership has been linked to project management for several decades. A recent emphasis is on vertical and shared leadership on projects. The role that certain project characteristics play in selecting the appropriate balance between vertical and horizontal leadership is investigated.
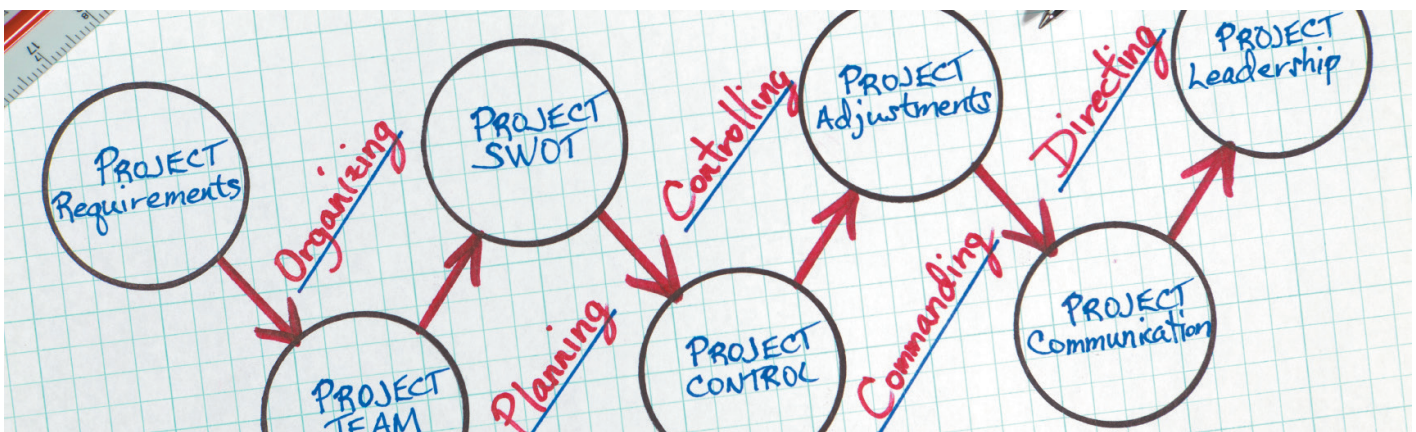
Project Governance

Dr Giel Bekker

Project Governance is a set of management systems, rules, protocols, relationships and structures that provide the framework within which decisions are made for project development and implementation to achieve the intended business or strategic motivation.

The development and implementation of project governance systems, structures and protocol remains a challenge in many organisations. Research in this field focus on steering committees, project sponsorship, the role and function of governance as opposed to managing and controlling as well as governance dynamics across the project life-cycle. The alignment to corporate governance, audits, reviews, assurance and the impact of the variables associated with trans-company, trans-country projects are also investigated.

Project Readiness and Methodologies

When is a project ready to progress to the next phase? Should it progress and what are the conditions for continuation?

These questions forms the key inputs to the quest to develop readiness assessments to assist project decision-makers to make go-no-go decisions on capital projects. As an extension to readiness the functions, disciplines and deliverables required across the project life-cycle are defined in the quest for a complete project methodology.

Project Sustainability

To ensure a sustainable society projects needs to address the three P's namely People, Planet and Profit.

Traditionally projects were concerned with the activities between project initiation and close-out. To ensure sustainability project sponsors and associated functions needs to view the project from idea to end-of-product life. This approach confronts the project team with questions of wider society involvement, environmental changes, decommissioning and rehabilitation of project facilities and asset/product life-cycle rather than merely project life-cycles. Research in this field is fairly current and consider the broader context and complexity that impact project delivery.

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