Project Management Philosophy
Incremental improvement of project management through the use of research

By AP Van der Merwe, PhD
Professor of Business Management,
Faculty of Organisational Sciences, University of Belgrade, Serbia

Abstract

The scientific method of research dictates that findings are based on the observation of how things are found to exist in nature. Published papers describe significant findings in order to bring intelligent theory to the subject matter, resulting in the illumination of laws that govern the subject. Research centres collate findings to direct effort into as yet undiscovered areas, in order to improve understanding of the natural laws.

Academic education is based on – and operates in – the realm of research, to incrementally improve the understanding of theory and laws, so that the practical existence of the subject can be improved on, if possible. To ignore incremental improvement is to hasten the demise of the subject, as all systems tend to spiral to a close naturally.

Undergraduate students have to learn from existing theory to form a basic understanding. Postgraduate students prove to master the subject by describing the current state of the art. Doctoral students demonstrate that they have moved beyond the state of the art into the area of new knowledge, to bring new theory to improve the existence of the subject matter.

Research centres help students with topics in areas where an improved understanding is required from industry. Research must be based in theory and practice, while solutions need to be applied in practice, and the resultant success or failure published to be relevant. Simply describing the way things ought to be, or dictating what we think the laws should be, does not help.

INTRODUCTION

Plato (429-347 BC) believed that all knowledge could be reasoned, whereas Aristotle maintained that knowledge relied upon empirical observation and measurement. Philosophy is the study of phenomena as found in nature. The task of science is to explain actual events, processes, or systems of phenomena. Scientific method is the means by which researchers are able to make conclusive statements about their studies. A theory or law, in the world of science, is the sum of many hypotheses which
have undergone rigorous tests and have never been disproved. Science requires vision and the ability to observe the implications of results. Collecting data is part of the process, and needs to be analysed and interpreted. However, the visionary part of science lies in relating the findings back into practice.

Research is the process of relating findings to the real world and is known as inductive reasoning. The process of changing current theories, called a ‘paradigm shift’ according to Thomas Kuhn, is an integral part of the scientific method. The scientific method has evolved, over many centuries, to ensure that scientists make meaningful discoveries founded upon logic and reason, rather than through emotion. It was Pythagoras who gave the word ‘theory’ its modern meaning, and in this context the distinction between theory and practice corresponds roughly to the distinction between theoretical science and technology or applied science. In modern science the term ‘scientific theory’ refers to a proposed explanation of empirical phenomena, made in a way which is consistent with the scientific method.

Project management writings tend to describe the way things should be, and not the way things are found to be. For project management to be relevant, it should be researched in the wild, in order to describe the system that the subject matter subscribes to. This implies formal education through a research centre and/or a faculty, where students can investigate findings in order to explain the theory to improve practice to improve education.

Philosophy, theory, law and scientific method

Philosophy is the study by observation of a phenomenon as it occurs in nature.

Philosophy is defined as the critical examination of the grounds for fundamental beliefs, and an analysis of basic concepts employed in the expression of such beliefs. The science of philosophy is the study of the elements of scientific inquiry and of their validity. The task of science is to explain actual events, processes or phenomena. Therefore, no system of theoretical ideas, technical terms or mathematical procedures qualifies as scientific, unless it comes to grips with empirical facts at some point, and in some way, to make them more intelligible. From the beginning, scientists themselves have been interested in making the workings of nature intelligible with the help of compact and organised theories. Philosophers of science are obliged to consider nature as an assemblage of empirical facts, the manner in which man perceives and interprets those facts when bringing them within the grasp of an intelligible theory, and the validity of the resulting theoretical ideas affected by the processing of empirical data (Britannica [CD-ROM] 2011).

Philosophy subscribes to systems theory to intelligently describe the process of what is found in nature. This description becomes the theory of the subject, which is used in education to teach us how things work, in an attempt to accelerate learning on how to deal with them. This is supposed to help us learn more about the process when we get to deal with them in practice – which, in turn, helps to improve the theory. The objective
of philosophy is to explain, in theory, how it works. The objective of research is to explain how to help it work better. (Schein, 1988:23)

Theory is a correctly proven fact in the study of a phenomenon. Theory, in modern English, is a concept which originally derives from classical Greek philosophy – for example, that of Plato, and is derived from the ancient Greek θεωρία (= theoria), which originally meant "a looking at, viewing, beholding", but in philosophy specifically came to refer to contemplation or speculation, as opposed to action, including "practice" (Greek – praxis, πρᾶξις) – actions done for their own sake. It also referred to poiēsis or technē – things done because they were instrumental to some other aim. ("Theoria" is also a word still used in theological contexts). An ideal theory of scientific method would consist of instructions that could lead an investigator from ignorance to knowledge (Popper, 1963:33).

In his book, From Religion to Philosophy, Francis Cornford suggests that the Orphics used the word "theory" to mean “passionate sympathetic contemplation”. Pythagoras changed the word to mean a “passionate sympathetic contemplation of mathematical and scientific knowledge”. This was because Pythagoras considered such intellectual pursuits as the way to reach the highest plane of existence. Pythagoras stressed the killing of emotions and the lusts of the body, and the release of the intellect, to soar into the exalted domain of theory. It was thus Pythagoras who gave the word "theory" its modern meaning, and in this context the distinction between theory and practice corresponds roughly to the distinction between theoretical science and technology or applied science. In modern science, the terms "theory" or "scientific theory" refer to a proposed explanation of empirical phenomena done in a way consistent with the scientific method. Such theories are preferably described in such a way that any scientist in the field would be in a position to understand, verify and challenge them (Comford, 1912:29)

Theories are analytical tools for understanding, explaining and making predictions about a given subject matter. A formal theory is syntactic in nature, and is only meaningful when given a semantic component by applying it to some content. Theories in various fields of study are expressed in natural language, but are always constructed in such a way that their general form is identical to a theory as it is expressed in the formal language of mathematical logic. Theories may be expressed mathematically, symbolically or in common language, but are generally expected to follow principles of rational thought or logic.

In scientific usage, the term "theory" is reserved for ideas which meet baseline requirements about the kinds of empirical observations made, the methods of classification used, and the consistency of the theory in its application among members of the class to which it pertains. These requirements vary across different scientific fields of knowledge, but, in general, theories are expected to be functional and parsimonious – i.e. a theory should be the simplest possible tool that can be used to effectively address the given class of phenomena. Such theories are constructed from elementary theorems that consist in empirical data about observable phenomena. A
scientific theory is used as a plausible general principle or body of principles offered to explain a phenomenon. A scientific theory is a deductive theory, in that its content is based on some formal system of logic, and that some of its elementary theorems are taken as axioms. In a deductive theory, any sentence which is a logical consequence of one or more of the axioms is also a sentence of that theory (Mohar, 2008:87).

**Scientific Law** is a statement of fact meant to describe, in concise terms, an action or set of actions. It is generally accepted to be true and universal, and can sometimes be expressed in terms of a single mathematical equation. Scientific laws are similar to mathematical postulates. They don’t need external proofs, and they are accepted at face value, based upon the fact that they have always been observed to be true. Scientific laws must be simple, true, universal and absolute. They represent the cornerstone of scientific discovery, because if a law ever did not apply, then all science based upon that law would collapse. Some scientific laws, or laws of nature, include the law of gravity, Newton’s laws of motion, the laws of thermodynamics, Boyle’s law of gases, and the law of conservation of mass and energy (Wilson, 2011).

**Scientific method** is the research of phenomena to establish theory and law by publication within the greater community, and contains the following steps:

- Make Observations – Observations are made informally, and try to find ideas that would be suitable for an experiment.
- Formulate a Hypothesis – A hypothesis is a statement that can be used to predict the outcome of future observations. Test separate variables in separate experiments.
- Design an Experiment – Find different ways to test a single hypothesis: What is found in literature compared to what is found in practice, and what will the new idea contribute?
- Test the Hypothesis – Perform an experiment. Data might take the form of numbers (quantitative research) or questions and/or interviews to test the observation/experience of others (qualitative research). It is important to keep data that does not support the hypothesis. Tests are to show how the hypothesis relates to published theory and current practice.
- Accept or Reject the Hypothesis – For many experiments, conclusions are formed based on informal analysis of the data. Simply asking, “Does the data fit the hypothesis?” is one way to accept or reject a hypothesis. However, it is better to apply a statistical analysis to data, to establish a degree of ‘acceptance’ or ‘rejection’. Mathematics is also useful in assessing the effects of measurement errors and other uncertainties in an experiment.
- Accepting a hypothesis does not guarantee that it is the correct hypothesis. This only means that the results of the experiment support the hypothesis. It is still
possible to duplicate the experiment and get different results. It is also possible to have a hypothesis that explains the observations, yet is the incorrect explanation.

- If the hypothesis was rejected, then reconsider the explanation for the observations.

Scientific method is based on observed phenomena relating to the specific subject matter of the research. A hypothesis is used to explain some aspect of the observations by testing a prediction, and forms the basis of creating theories and laws. The scientific method requires a hypothesis to be eliminated if experiments repeatedly contradict predictions. A hypothesis is a 'small' cause and effect statement about a specific set of circumstances. It represents a belief that a researcher possesses before conducting a satisfactory number of experiments that could potentially disprove that belief. For example, you open your refrigerator at home and are greeted with a sour smell. You decide that the milk must have gone bad. This is your hypothesis. It is based on the phenomena you are observing right now (sour smell) as well as knowledge from past experience (bad milk has a sour smell). You test your hypothesis by opening the container of milk, and, upon smelling it, you find that the milk doesn't smell sour after all, so you must come up with another hypothesis (Scientific research method, Internet:2011).

Research and development

Research is a phrase unheard of in the early part of the 20th century yet the concept of research is as old as science. The concept of the intimate relationship between research and subsequent development, however, was not generally recognized until the 1950s. The innovations that result in new products and new processes usually have their roots in research and have followed a path from idea, through pilot or prototype production and manufacturing start-up, to full-scale production and market introduction. The foundation of any innovation is an invention. Indeed, an innovation might be defined as the application of an invention to a significant market need. Inventions come from research—careful, focused, sustained inquiry. Research can be either basic or applied, a distinction that was established in the first half of the 20th century.

Basic research is defined as the work of scientists and others who pursue their investigations without conscious goals, other than the desire to unravel the secrets of nature. In modern programs of industrial research and development, basic research (sometimes called pure research) is usually not entirely “pure”; it is commonly directed toward a generalised goal, such as the investigation of a frontier of technology that promises to address the problems of a given industry. An example of this is the research being done on gene splicing or cloning in pharmaceutical company laboratories.

Applied research carries the findings of basic research to a point where they can be exploited to meet a specific need, while the development stage of research and development includes the steps necessary to bring a new or modified product or
process into production. In Europe, the United States, and Japan the unified concept of research and development has been an integral part of economic planning, both by government and by private industry (Britannica [CD-ROM] 2011).

The function of an academic Research centre is the publication of findings about the study of a phenomenon, using scientific method to simplify theories and laws, so that their understanding can be improved on, leading to new theories and laws being discovered.

**Using a research centre**

**Level of research**

It is the first duty of the research centre to see to it that research is done at the correct level. Bachelor degree level is to prove the understanding of fundamentals. Master’s degree research is to improve understanding of the state of the art. Doctoral research is to provide new knowledge. It is the second duty of the research centre to see to it that research is carried out in a combining theory to practice. The research fellow guides student topics to areas where theory has a solution but in practice there is a problem or where theory has a problem but in practical application there is a solution. It is the third duty of the research centre to see to it that research is practically applied and the result of the application published. This leads to keeping the subject relevant.

**Relevance**

All research must prove relevance between theory and practice. To this end, proposed publications must technically verify that the hypothesis has been tested in already published theory, implemented in practice to prove its success or failure and lessons learned from implementation in order to guide future research. At some universities students are only allowed to pay half of the fee. Organisations experiencing problems in the area being researched pay the other half in purchasing the research on the basis that it contains a literature survey of the hypothesis, a survey of current practise, the practical implementation of the hypothesis and the findings after the fact of practical implementation. Depending on the university it may be required that in addition to exam results students are required to criticise published research which helps them formulate their own research, publish magazine articles on their own research, present findings at conferences and defend their degree in a group of pears in a test of relevance.

**Editing**

Before publishing, research writing has to be edited for technical content and scientific method, correct use of language, and formatting of the layout – including the correct positioning of information in the document, to aid future research. Scientific method is used to do the research while academic writing method is used to convey what was found in an intelligible sequential format to improve understanding of the subject. It is
here that most research fails in that it does not matter how well the research was done or how pertinent the subject, if it cannot be explain in writing it is lost.

## Publishing

Research centres assist in publishing in the correct media – newspapers, magazines, journals and books. Collating published material in a research library helps to organise knowledge to form trends where research gaps can be addressed or where future research can be guided.

## Consulting

Enquiries resulting from publishing are directed to further research, and are used to gauge interest/validity in theory and/or practice, while generating income through consulting, by sending researchers to industry, where required, thus assisting in making research more relevant.

## Seminars, symposiums and conferences

Seminars are arranged for Bachelor’s degree research in those areas where publications proved an interest, and to give students a chance to present findings to an audience of peers.

Symposiums are arranged inter-university for Master’s degree research in those areas where publications proved an interest, and to give students a chance to present findings to an audience of peers and industry. At some universities it is also a prerequisite of the Master’s degree programme that students have to have published and presented two papers on the topic of their research.

Conferences – national and international – are arranged for Doctoral degree research in those areas where publications proved an interest, and to give students a chance to present findings to a global audience of peers and industry. At some universities it is also a prerequisite of the Doctoral degree programme that students have to have published and presented, internationally, two papers on the topic of their research.

## Fellowship

Based on the hypothesis and relevance, the research fellow researches the research at the research centre to find areas where the research is tightly grouped. This indicates an area of special interest to theory and/or practice, where specific research and publication can point to a problem or solution.

## Income

All activities of the research centre are income generating where distribution of such income is between the research centre, the faculty and the student, in various
percentages. This helps to make funds available for research the lack of which has recently been referred to as a fundamental cause of the financial crisis in Europe. Portugal, Spain and Italy have virtually no governmental research budget (Research funding, Internet:2011).

By way of explanation of how a research centre works, the following hypothetical story is told ...

In a department of palaeontology, the research fellow notices that a lot of research is being done on whether dinosaurs were reptiles or birds. He also finds that a certain geographical area is yielding fossils of bipedal dinosaurs. Approaching the professor of palaeontology with this information, it is found that a research grant is available. A summer camp is arranged for the under graduate students at the site identified by the research fellow, to find out whether bipedal dinosaurs were, indeed, birds. As the students dig, they find fossil bones. Using state-of-the-art, master’s degree students investigate the soil in the close vicinity of the bones to find imprints of feathers. They also find nests and eggs. Doctoral students investigate the bones, nests and eggs to find a new species that were birds, but had teeth instead of beaks. The bachelor students write papers on the fundamental theory of palaeontology and on how their experience supports or changes current theory. Masters students write papers on how they used state of the art to find the feather imprints, nests and eggs. Doctoral students write papers on how new knowledge was brought to light to find dinosaurs that had feathers, lived in nests, laid eggs and had teeth. The professor at the research centre holds symposia for the students to present their papers, and a conference is held for the international community on bipedal dinosaurs as birds, thereby gaining global recognition for the research centre, faculty and students.

Project management

While working in India, it occurred to me that, firstly, development and project management were inextricably linked – without project management, development would suffer from ineffectual deployment, and secondly, that projects could be grouped into three development sectors: industrial, business and social.

Industrialisation or industrial development is the shift from manual labour to mechanisation specialisation in manufacturing goods for profit – as is evident in modern production and engineering (Industrial revolution, 1997). Commercialisation or business development is made up of complex operations in the lives of people, concerning all those functions that govern the buying and selling of goods and services to make a profit in a pattern of operation, strategy, marketing and distribution for consumption (Business, 1997).

Some scholars believe that the basic principles of socialism or social development were derived from the philosophy of Plato, the teachings of the Hebrew prophets, and some parts of the New Testament (the Sermon on the Mount, for example). Modern socialist ideology, however, is essentially a joint product of the 1789 French Revolution and the Industrial Revolution in England. Socialism has assumed a number of distinct
forms in the Third World, but only in Israel has moderate social democracy proved successful for long periods. At least of equal significance, however, are the cooperative agricultural communes (kibbutzim), which have flourished since 1948 (Socialism, 1996).

As no formal, accepted definition for social development is prevalent, I define it as those activities of society which are essentially non-profit areas – such as education, sanitation, healthcare, land reform and criminal justice. Economic development, a producer of wealth, must therefore lead and be synchronised with social development a consumer of wealth. To better understand this aspect, a matrix (Fig. 1) was constructed, in which First, Second and Third World economies are related to industrial, business and social developments.

Figure 1: Economic/ Development Matrix.

<table>
<thead>
<tr>
<th></th>
<th>Industrial Development</th>
<th>Business Development</th>
<th>Social Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; World economies</td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; World economies</td>
<td>D</td>
<td>E</td>
<td>F</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; World economies</td>
<td>G</td>
<td>H</td>
<td>I</td>
</tr>
</tbody>
</table>

(Source: Own compilation).

As global unemployment figures continue to grow and world markets reach maturity, a slacking off of demand is experienced. By World Bank definition, the First World is developed, prompting people to realise that in order for the global economy to grow, Second and Third World economies now need to be developed as well.

The basic premise of the production function is that people work (Gills et al., 1996:41). This is simply no longer true. There are several examples where people are paid not to work, or paid not to produce, with the result that two of the four factors required for economic growth – i.e. the size and quality of the labour force and the availability of natural resources, are no longer valid. This has proved technology to be a competitor to employment, as it replaces people in the production function with more efficient machines, and can be seen where several of the most successful commodities ever presented on the stock exchange require no natural resources.

Until the advent of industrialisation in the 19<sup>th</sup> century, an extended family of approximately 40 people farmed about one hectare manually. Mechanisation improved efficiency to the extent that 80 people could now farm four hectares, resulting in farms becoming bigger and employing more people specialising in the different activities. By the year 2000, technology had progressed to a point where one man could farm 400 hectares on a fully automated farm, or milk 400 cows in a fully automated plant.
Furthermore, most food production today is untouched by human hands, from breaking
the ground to the final product offered for sale at the point of consumption. First World
technology deployed in Third World countries does not create jobs, but increases the
number of beggars.

The World Bank and the International Monetary Fund have declared their support of
social development in lower developed countries to be a failure. At this point in time, the
world’s financial authorities have been requested to scrap the debt of lower developed
countries, as they simply cannot pay it back. It would seem that the key to continued
global economic growth lies not in aid, but in trade, together with continued
technological development which is achieved by more efficient labour - not educated in
knowledge, but skilled in methods of production.

Management by projects can play a central role in organisations of the future, where
project management needs to be described in terms of the fundamentals applicable to
business development. From the literature surveyed, a trend has developed where
project management (a) from the perspective of industrial development, can be seen as
the past, (b) from the perspective of business development, as the present, and (c) from
social development, as the future.

Two schools of thought – one emanating from America with a distinct industrial
approach, and the other emanating from Europe with a business approach – dominate
the history of project management. The life cycle approach developed in Europe for use
in business development, can be seen as the driver or engine that leads social
development. Connected through education in project management as a lifeskill in an
outcomes-based environment, the life cycle approach to project management is seen as
essential for the development of Third World economies.

In further consideration of Fig. 1, project expenditure by sector could be entered in a
modified Pareto principle, using a 70-20-10 relationship instead of the 80-20 normally
used, to reveal the following:
Figure 2: Project expenditure.

<table>
<thead>
<tr>
<th></th>
<th>Industrial Development</th>
<th>Business Development</th>
<th>Social Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st World economies</td>
<td>20</td>
<td>70</td>
<td>10</td>
</tr>
<tr>
<td>2nd World economies</td>
<td>70</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>3rd World economies</td>
<td>10</td>
<td>20</td>
<td>70</td>
</tr>
</tbody>
</table>

(Source: Own compilation).

Figure 2 is a result of personal observation, rather than scientific fact, and shows the change in importance of various kinds of projects to different economies. Of particular importance to project management is the fact that published theory and knowledge exclusively features First World industrial development projects. What was found at the Commonwealth Forum Meeting on Project Management in New Delhi in December 1998, was that most Third World social development projects are unsuccessful, partly because of the theorists’ unfamiliarity with Third World conditions, and their subsequent failure to take this into account in their theory formulations.

The development matrix can then be considered as the environment in which project management exists.

Research of available literature on project management published since 1981, as well as information available from international institutes, and interviews held informally with forty practitioners, fifteen research academics and five well-known authors on the subject of project life cycles, has resulted in the compilation of a model project seen in Table 1. These interviews were held between 1995 and 2010. All the discussions were held informally, to find a commonality of things that work. A pattern emerged in that what was found in literature, and that which practitioners, researchers and authors maintained was what made projects successful, and these were included in the model. A review was done of magazine and journal articles published between 1995 and 2010 in APM's “Project” and in PMI’s “PM Network”, as well as IPMA’s “International Journal of Project Management” and PMI’s “Project Management Journal” for the same period. Finally, all conference proceedings for IPMA and PMI were reviewed for the period 1990 to 2010. In focusing on those articles that discussed solutions (things that work) and not problems (things that do not work), evidence was found which concurred with findings from the interviews, that a base model could be constructed as follows:

Using a model life cycle of a project (Fig. 3) containing four stages and a strategic work breakdown structure that practitioners are familiar with, as a standard reference, and applied to the nine sectors in Fig. 1 (above), a theory could be developed to explain the similarities and differences between projects in each sector:
Figure 3: Project Best Practice Model.

<table>
<thead>
<tr>
<th>PROPOSAL</th>
<th>PLANNING</th>
<th>IMPLEMENT</th>
<th>CLOSE-OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHANGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Risk:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of people:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labour hours:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total $ required</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stakeholder Analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Presentation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>resource use</td>
<td>50% accurate</td>
<td>resource use 95% accurate</td>
<td>resource use 100% accurate</td>
</tr>
</tbody>
</table>

(Source: Own compilation).

In this model (Fig. 3), work is completed in a logical sequential order 1-10 within the Proposal stage, first. When sponsors’ approval is gained, permission has been given to proceed to the Planning stage. Work is then completed in a logical sequential order 1-10 within the Planning stage. When the contract is placed, sponsors’ approval is sought.
for permission to proceed to the Implementation stage. Once gained, work is then completed in a logical sequential order 1-10 within the Implementation stage. Acceptance of the product produced, and achievement of the end condition, gives permission to proceed to the Close-out stage. Work is then completed in a logical sequential order 1-10 within the Completion stage. Completion of the project administration places the project on the asset register, and gives permission to disband the team.

**Fig. 3** represents a theoretical model for a project, on one page, that is continuously incrementally improvable and has a high percentage of repeatability and re-use. If each strategic work package represents 10 operational-level activities, and each Operational level activity represents 10 Detail level tasks, a total of 4000 detailed tasks can be controlled on one page. The stages themselves can exist at set levels of detail when that stage is entered into – i.e. Proposal = Strategic level, Planning = Operational level, and Implementation = Detail level. This assists rolling wave planning by eliminating long-range inaccurate plans. Because the project is dynamic and the plan is static, we know the plan is always wrong, but by using levels, the plan exists only in the Strategic level where the model is always correct. We know the Detail exists, but it is not recorded onto the plan until the project is ready to achieve a particular stage of the life cycle.

If this concept is used, then theory can be developed to describe the 40 Strategic-level activities, 400 Operational level activities, and 4000 Tactical level activities for each of the nine sectors of development in **Fig 1**.

**Industrial development** projects have key descriptions such as chemical plant, power station, bridge, dam, engineering, production etc as part of the title. The use of resources on these projects are established in such a way that people form dedicated centralized teams working full-time on one project at a time. Mostly contractors are used to perform the work of the project, never own staff. Time taken to peruse the project from inception to conclusion is measured in years. Money required for all project costs are of a capital nature and are seen as an investment, which has a payback period.

Most management effort is spent in the implementation stage. Management of change to the original plan is a key activity. Project risk, once commitment to the project does not feature. Product risk is managed in the planning stage, where impact affects quality, time and cost in the implementation stage. Formal design is completed by an in-house design team. Contracts based on specification preparation, tender evaluation and contract negotiation, are always a part of these projects.

A contractor is normally used to complete the work of the implementation with the client present onsite administering the contract. Project Close is not seen as part of the project. Commercial Operation is not part of the project. Many formal tool and techniques exist which concentrate on the completion of the task.
Business development projects have key descriptions such as business processes, strategy implementation, change management, restructuring, systems development etc. in their titles. The use of resources on these projects is established by using people in distributed cross-functional teams, lateral teams or virtual teams working on many projects concurrently, predominantly own staff used, with assistance from some consultants. Time taken for project completion is measured in hours or days. Money is rarely spent on equipment; often there is no capital spent at all. A distinguishing factor in these projects is that the costs incurred are in labour hours.

Most management effort is spent in the planning stage. Due to very short implementation periods, changes to an original plan, result in automatic failure. Managing people is the key activity as own staff is used who have other work to do; loyalty to performing the tasks of the project is critical. Project risk requires alignment with the company’s strategic direction while the marketing window of opportunity remains a constant threat to the project. Product risk is managed in the planning stage as part of design, and normally does not feature during implementation due to the extremely short duration of this stage.

Formal design is completed by an in-house design team, including some consultants. Contracts between departments for the supply of labour are a further feature of these projects. Implementation is completed by the same in-house team who did the proposal and design. Project close uses formal approaches but due to work pressure the team members rapidly deploy back to their functional position or move on to other projects. Thus, project closure is not often formally completed. Commercial operation life cycle entertains ongoing modification and changes to project deliverables, often obscuring the end of the project. Few formal tools and techniques exist concentrating on the management of the individual team member.

Social development projects have key descriptions containing words such as rural, poverty, education, healthcare, sanitation, housing, policing, etc. as part of the title. Resources required for social projects use local residents managed by consultants to perform the work. Time consumed for project duration is measured in mainly weeks or months. Money consumed is made up of grant aid, donations and/or government finance, and spent mostly as administration overheads with very little of the money going towards paying the workers or completing the project.

Project managers spend most of their effort in the proposal stage communicating with stakeholders to gain commitment from the community at large, as without this support no effort spent in planning or implementation will meet with success. As the local community supplies labour, education and skills development are key activities during the planning stage to assemble a workforce for implementation. Project risk originates in and impacts on the proposal stage, while product risk is managed in the planning stage and impact effects quality, time and cost in the implementation stage.

Consultants complete formal design. Contract management including specification prepare, tender evaluation and contract negotiation is always a part of these projects,
including contracts within the community for the supply of labour. The community complete implementation of the project with very little help from outsiders. Project close is a major event with formal handing over of the project deliverables to the community, done with much fanfare to score political points. Commercial operation of the project is not part of the project. Almost no formal tools and techniques exist concentrating on the involvement of the community.

Conclusion

I fear that research in project management has led to insufficient observation of the phenomena as it occurs in nature and an over abundance of publications on what project management is suppose to be. This in turn has led to project management theory that seems disjointed between deferent disciplines. This stems from the fact that few universities have a faculty dedicated to the study of project management as a phenomena. In literature it is stated that 80% of all projects are a failure, and that research of the last 100 years of project management found no evidence of cost performance improvement on large capital projects. In ever greater endeavours to professionalise project management, it may be time to recognise that the way projects are being managed is a failure, and that the current accepted way of doing things does not work.

Systems theory dictates that all systems naturally spiral down to a close.

Project management has to be a system that naturally spirals towards success from solutions having been implemented.
References

ABOUT THE AUTHOR

AP Van der Merwe, PhD

Author

Andre P. Van der Merwe, BTec, MBA, PhD, professor of Business Management, Faculty of Organisational Sciences, University of Belgrade, Serbia has forty years of experience in project management. Andre has published 49 papers internationally and regularly speaks at congresses and symposiums on the education of Project Managers, Social development and multi-project management. His work experience ranges from being part of a construction gang to commissioning control and Instrumentation systems at Nuclear Power Stations; he received a management award for innovation by successfully completing more than 2000 simultaneously occurring projects within time and budget. He is the Founder and past Chairman of the Association for Project Management in South Africa, has served as a member of the Global Forum for education in project management, a committee member of the doctoral research colloquium of Europe hosted by Trinity College Ireland, A member of the editorial committee of “Management” an international journal published by the University of Belgrade Serbia and a member of MENSA Society. Prof Van der Merwe can be contacted at andre@infinite.org.za.