

# REFORMING THE MANAGEMENT OF INDUSTRIAL PROJECTS IN DEVELOPING COUNTRIES: THE ROLE OF STRATEGIC PLANNING

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The decline in performance of many industrial projects in many developing countries is a result of projects becoming more complex and reduced time schedules, consequently, project management in developing countries is failing because of flawed assumptions and idealised theory. It rests on contextualism of procedures, knowledge and process which are best developed by taking a more strategic approach. The complex nature of industrial project management has led to conflicting procedures, knowledge and cultures. Using a qualitative approach this study explores the role of strategic planning in developing countries. The findings suggest that project managers and aid agencies in developing countries must actively promote strategic project management as a means of implementing strategic change. The findings provide a comprehensive assessment of factors critical to strategic planning success of projects in developing countries.

Keywords: contextualism, developing countries, industrial project management, strategic planning, strategy.

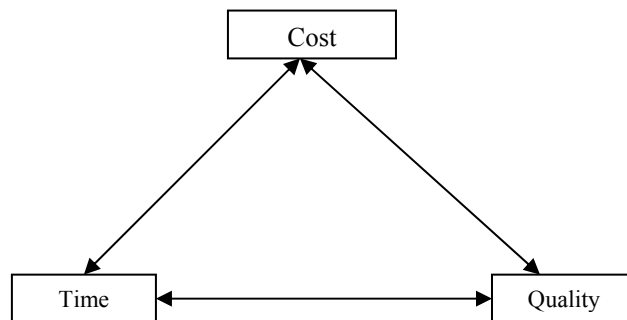
## INTRODUCTION

Although there has been considerable debate over the last decade on the effectiveness of strategic planning, there has been little research into the role of strategic planning in relation to the management of industrial projects in developing countries. Large industrial projects in developing countries are of critical importance, not only for those who use them, but also for the international agencies (Worldbank, IMF, United Nations etc) and the organisations that build and finance them. When successful, they can generate substantial revenues and are of great benefit to society, but when they go wrong society suffers and the organisations and institutions associated with the project can experience severe financial difficulties and considerable damage to their reputations. This has generated a considerable number of prescriptions that have focussed on many internal project management issues such as scheduling, control and design, however, these are very much from an operation rather than strategic perspective. This paper maps many of the key issues facing project managers in developing countries. It starts with a review of industrial project management in developing countries, followed by an overview of why industrial project management should be reformed. It proposes a need for strategic planning especially from a strategic perspective. An overview of the research methodology is provided. The main conclusion suggests that project managers and aid agencies in developing countries must actively promote strategic planning as a means of improving the performance of their large industrial projects.

## INDUSTRIAL PROJECTS IN DEVELOPING COUNTRIES

Industrial project management has emerged as a field that is being used increasingly by organisations to achieve their business goals. Construction is an industry which has an enormous impact on the way we live our lives. It is also an evolving industry, constantly changing to fit the needs of the world in which it makes such an impact. The projects which people in this industry design contribute to so many of the products we take for granted. Clients include oil, chemical, pharmaceutical, food manufacturing and water companies all over the world (on and offshore). The nature of these projects means the wealth of the engineering design and construction industry is inextricably bound up with the health of the world's economies. As industrial organisations in developing countries define more of their activities as projects, the demand for industrial project managers grows, and there is increasing interest in reforming the project management process. It is widely accepted that a project is successful when finished on time, within budget, in accordance with specifications and to client satisfaction. Unfortunately, due to a number of factors, project performance and project success needs to improve, especially in developing countries. As a result, several studies on specific types of projects have been undertaken (Mansfield *et al.* 1994; Ngowi 2002), usually focusing on agriculture, construction, process industries, manufacturing, facilities and services projects.

Factors believed to contribute to the project management success or failure have been identified in many studies (Aridith and Gunaydin 1998; Morris and Hough 1993; Gallagher 1995). At the same time, some criteria against which industrial projects can be measured are available, for example time, cost and quality often referred to as The Iron Triangle (see Figure 1: Oberlender 1993). Industrial projects in developing countries, however, continue to be described as failing, despite the management of project budgets (www.worldbank.com 2006). Why should this be if both factors and criteria for success are believed to be known? One argument is that project management seems keen to adopt new factors to achieve success, such as methodologies, tools, knowledge and skills, but continue to measure or judge project management using tried and failed criteria.



**Figure 1:** The Iron Triangle (Oberlender 1993)

Current literature implies that success of a project is dependent on having a realistic goal, competition, client satisfaction, community satisfaction, definite goal, profitability, market availability, the implementation process and the perceived value of the project (Turner 1999). It could be argued that only two of the items lie directly within the scope of project management. These are the definitions of a goal and the implementation process. This highlights that project management and its techniques are only a subset of the wider context of the project. Project management plays a role in project success but that role is affected by many other external factors outside the

client control of the industrial project manager. This should start to explain why projects in developing countries can succeed or fail independently of the project management process.

## **WHY INDUSTRIAL PROJECT MANAGEMENT SHOULD BE REFORMED**

The literature search for the definition of the word project management involved an analysis of the works of Walker 1996, Turner 1993 and Kerzner 1992. The authors indicate that a project can be defined as an art and science of directing human and material resources to achieve stated objectives within constraints of time, budget and quality and to the satisfaction of every party involved. From the definition it could be argued that given the organisational scenarios within which projects are initiated and managed, some confusion will inevitably be encountered in relation to how a project should be defined. Cleland and Ireland (2002) countered this argument by suggesting that a project should transform an unsatisfactory (existing or future) state to a better state within a certain time using a limited effort.

As Struckenbruck (1992), suggests: in any project situation, there is always the client who has a unique idea for something new, and some often vague expectations about tangible outcomes. In addition, there is an expectation for the required knowledge and resources to conduct the realisation of the concept within the specific constraints of time, money and specifications. The required expertise and resources, either in house or from the market, need to be pooled to create the change - the transition from the idea to the creation. Client expectations should be provided by professionals, consultants, contractors and sub-contractors; however, there is always a limited amount of time, capital and human and material resources affecting the project network. The challenges can occur within any human social setting, including where there is conflicting strategies, professional and functional interests, hidden agendas and cultural backgrounds. Effective management processes of planning, monitoring and control are required to translate the idea of change into tangible deliverables. Such strategies should ensure that at the end of the project cycle, client's expectations are matched with wider issues of social and behavioural impact that go beyond the boundaries of the project organisation.

Based on the above characteristics, it could be argued that if project management is introduced properly, it should fill a natural need in the managing of projects in developing countries. According to Struckenbruck (1992), project management has been found to have the following advantages in developing countries:

- it is a way of identifying the most critical and urgent need for applying priorities;
- it is a way of efficiently using scarce resources and effectively allocating them where they are most urgently required;
- it ensures that effective utilisation and integration of scarce skilled personnel, as well as raw materials and expensive equipment is made possible;
- it is a way of increasing the probability of completing the project on time and within budget; and
- it is a way of increasing the efficiency and effectiveness of governmental bureaucracies.

Project Management should enable some clear strategies for the implementation of projects and possibly incorporate some of the techniques into the systems of an organisation. This should facilitate plans for completing the projects on time and within budget (fulfilling the promises) which will give clients more trust and confidence in their government and will encourage the system to be more responsive to public needs.

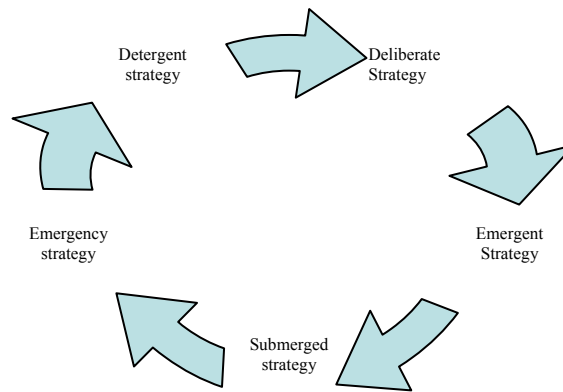
## **STRATEGIC PROJECT MANAGEMENT**

Industrial project management in developing countries is shaped by many social, political and economic factors interacting in complex and dynamic ways. These interactions are often specific to each country and often reflect its history, culture, legal systems, institutional frameworks and social capital. Project managers in developing countries dedicate a great deal of time and effort to develop and implement appropriate strategies but all too often find that very little changes within the projects. It has been observed that (Thompson 1998), the strategic change does not have the impact expected; somehow due to the forces of the original scope, objectives are dissipated as the strategy is passed down through the project life cycle; this leads to the initial momentum dissipated before the benefits are achieved.

Contemporary literature on best business practices introduces many different terms related to project management, including management by projects, project-based organisations, project-oriented businesses and temporary project organisation structure. In recent years the discipline of project management has changed its application dramatically to accommodate emerging management processes and philosophies related to implementation of organisational development and strategic change. There are a number of reasons for such terminologies and they tend to reflect endeavours of modern organisations to respond to the environmental changes by adapting specific patterns of coping behaviour.

The application of strategic planning within projects makes the achievement of highest return possible by optimal utilisation of available resources (including time, capital and people) more realistic. It could be argued that strategic related industrial projects in developing countries may be poorly scoped or time bounded. Paradoxically, industrial projects should be defined with much more rigour than usually the case. Equally, there needs to be a fully refined and continually steered project life-cycle. In effect these projects need to be guided much more sensitively towards their target to the more traditional, 'fixed' notion of a project. Just as strategic planning has had to come to terms with greater fluidity and ambiguity so must industrial project management in developing countries. Indeed the introduction of 'emergent' strategy in strategic management can be applied in an extended way. It is imperative to note that not only do these changes apply to project strategy but also project value-which can either be partly emergent or deliberate.

Figure 2 demonstrates an analytically useful approach to understanding project strategy. Project strategy may start off as deliberate but rapidly moves through other phases which will include emergent strategy, submergent strategy, emergent strategy and detergent strategy. These phases of the strategy can be characterised as follows:



**Figure 2:** Strategy Cycle (source: Mintzberg *et al.* 1985)

- Deliberate strategy: is a phase where the project will have well defined goals and a clear specific means of achieving these goals.
- Emergent strategy: where the projects and goals are necessarily fluid and where the means of achieving these goals can change in new and sometimes surprising ways.
- Submerged strategy: where the project might be losing its way-its original goals now may seem distant and unreliable and project activities might begin to fragment.
- Emergency strategy: where the project is truly fragmenting into rear-random actions and where the project as a whole appears to be overtaken by events
- Detergent strategy: where the project is recognised as off-course and by now being steered back on its original track or onto a new track (Mintzberg *et al.* 1985).

The strategy cycle demonstrated in Figure 2 is not intended to be a deterministic series of phases to always go around clockwise. Indeed projects may interchange between emergent / deliberate modes as they are guided to target. Periodically, an emergent phase decays into both emergent / submerged during a project life cycle, indeed projects may continue to fly off course rather than being grasped firmly. The objective for integration of strategic and industrial project management is for the introduction of an integral model which would essentially maximise the efficiency of strategy formulation and strategy implementation through projects (Cleland and Ireland 2002).

It is imperative to note that, organisations and agencies working in developing countries need to design an overall concept of management, i.e strategic planning which will essentially maximise competitive power within organisations. To date exploring the possibility of implementing strategies through projects mainly focuses on the junction between the two modes, i.e between the completion of the strategy formulation process and the beginning of the project start-up (Karlou and Diertrich 2004). The linking of strategic planning and industrial project management is a complex organisational problem in developing countries. From the point of view of a successful project implementation, the solution lies in an overall project-oriented organisation per individual areas. The organisation of these areas should be subordinated to the principles of multi-project organisation changes. This should ensure that the project management merges more and more in the existing

management, in particular if the senior managers are committed to the task of strategic development of the organisation.

## **PROJECT CULTURE IN DEVELOPING COUNTRIES**

The concept of project culture can be defined at organisational, industry and national level with all levels being relevant in the context of industrial project management research. Turner (1999) defined “project culture as the values and beliefs that members of a project hold in common as they relate to each other and their jobs. Project culture in developing countries is reflected in the way that people are managed, evaluated, hired, fired and in particular, how people are promoted. It has been widely accepted that a project culture has a life of its own and shifts over time, not necessarily in response to external environments or managerial actions. Despite a growing awareness of project culture and an influence upon project success, little is known about the influence of the construction industry’s culture in developing countries.

Currently, the cultural understanding of most industrial organisations is weak. While little is known about the cultural characteristics of individual country’s industrial organisations, even less is known about the cultural differences which differentiate them (UNIDO 2003). Such comparisons are critical, because the project culture of any industrial sector can be properly understood only by placing it on a continuum with other countries. This paper is timely because, in most countries, the place of industrial project management as a profession and as an academic subject in its own right is currently being redefined. This is leading to major changes in the way in which project management is viewed in developing countries, and in the expectations of those who support industrial project management and its practice as either employers or clients of project managers. In addition, the professional and industrial base of project management is becoming increasingly questioned in practice in terms of its underlying theories and principles and its breadth and nature of application. In particular, this paper seeks to provide a partial map of the discipline of industrial project management in developing countries.

## **METHODOLOGY**

This study is part of a continuous on going research; the method used for this part of the research was semi-structured interviews. For the purpose of this paper, findings from two open-ended research questions relating only to the area of strategic project management will be reported. Structured interviews were held with project managers from the fields of industrial project management. Five well-established project oriented organisations were selected. This resulted in a total of twenty interviews as summarised in Table 1. The research strategy was to obtain rich data about the attitudes, opinions and experiences of people involved with industrial project management in developing countries. This opened up a clear understanding of strategic implementation on industrial projects in developing countries. The implementation of the strategy meant undertaking a potentially lengthy interview with each participant which lasted eighty minutes. The following questions were posed in the interviews.

- How do you define the process of developing strategies in industrial projects?
- What are the approaches to strategic project management that you view as leading edge in developing countries?

The interviews findings have been grouped into clusters centred on themes that emerged as the interviews progressed, these included:

- process of defining strategy; and
- approaches to strategic project management.

## **SAMPLE**

The sample size was purposeful selected from participants in the industrial sector in Kenya. The aim was to select participants using simple random selection to ensure each individual had an equal probability of being selected from the population. This ensured a sample that is representative of the population. Given the need for in-depth information, constraints of time and cost, the study mainly focused on experienced participants who had a minimum of 10-15 years within the industrial sector. Table 1 highlights some background of participants.

**Table 1:** Details of participants

<b>Industry</b>	<b>Projects managed</b>	<b>Interviewees</b>
Process	Refinery plants	Project director / Project manager/ Project engineers
Manufacturing	Manufacturing plants	Project director / Project manager / Project engineers
Oil and Gas	Refinery plants	Project director / Project manager / Project engineers
Electric power	Power plant / dams	Project director / Project manager / Project engineers

## **INTERVIEW FINDINGS**

### **The process of defining strategy**

There was general agreement that strategy implied a high level and allowed a cascade of coherent sub-strategies and tactics to be developed. Several participants commented that the strategic process does not always address all the necessary elements of industrial projects in developing countries. As suggested by Price (2003), since the 1960s, the process of developing strategy has undergone a number of name changes from ‘long-range planning to corporate planning to strategic planning to strategic management’. Results of work by De Witt and Meyer (1998) suggested that there are strongly differing opinions on most of the key issues within the field of industrial project management and the disagreements ran so deep that even a common definition of the term strategy is misleading. The discussions concerning defining process of strategy, resulted in a general agreement to the process of implementing strategy as either strategic management or strategy development. There are two main methods of strategic change that were suggested by participants. These included:

- **education and communication:** where the project team is persuaded to change; and
- participation: where the project team assist senior managers in the definition of the strategic process.

For example, participants suggested that communication was the most important factor for successful implementation and some organisations had recently introduced

specific communication strategies. Performance, in relation to strategic objectives, was also measured and monitored in terms of time and resources, corrective action being taken where appropriate. The interviewed organisations did not raise other critical issues such as co-ordination strategy, quality strategy and safety strategy; however, these issues formed the basis for one of the interview sessions held at an organisation. Our opinion is that participation is the most reliable strategy for success and the least risky. This approach represents a powerful engine for reforming the current strategic process in developing countries. This approach does allow management to set direction and demonstrate their commitment to the change.

Given that there are many different approaches to defining strategic process, care must be taken to ensure that any recommended process are not prescriptive but permit a degree of flexibility that ensures the characteristics and needs of individual industrial organisations are taken into account. Industrial organisations in developing countries must also recognise the need to modify such process to ensure that their individual industrial organisation requirements are fully satisfied. There is a need for a cyclic process which is perceived on a regular basis to ensure that developments and performance can be closely monitored and emergent strategies are effectively managed.

### **Approaches to Strategic Project Management**

The discussions concerning approaches to strategic project management resulted in a general agreement that an organisation strategy should provide the boundaries for industrial projects and that goals and results must flow from an organisation future direction. Before deciding to commence on a new project, and when communicating the goals to the project team, project directors and project managers must provide clear answers to the following questions: What are the project goals? What is the value of the project? How will this particular project support the achievement of its strategy?

As observed during the interviews, best project management organisations had a clear, well-documented strategy and knew the mechanism for project support. Instilling effective strategic project management in developing countries included putting in place a system to evaluate every project for its fit with the strategy before implementation. This needs to be introduced during project definition. All the interviews supported the general view that the successful installation of strategic project management in developing countries depends on an organisation explicit belief that how projects are managed is just as important as what they achieve. Participants suggested that mismanaging cultural differences can render otherwise successful project management teams and organisations. However, when successfully managed, differences in project culture may lead to innovative project practices, faster and better learning within the project environment and sustainable sources of competitive advantage.

## **CONCLUSION**

While industrial project management in developing countries may not appear to be much different to that practised in developed countries there are number of additional factors to be considered. Project management requires deliberate planning and action to create the conditions for success and put in place the strategy, leadership, goals, process, skills, systems, issue resolution and structure to direct and exploit the dynamic nature of project work. As a number of international agencies and



organisations get involve with projects in developing countries, the role of strategic planning will undoubtedly increase. While the suggestions proposed by project managers do not resolve all the strategic change and reforming issues in developing countries, it is superior to the traditional approaches typically adopted and consequently merits far wider application. But what does this mean for project managers and aid agencies in developing countries? They must: actively promote strategic project management as the means of implementing strategic change. In particular, local managers must influence key decisions so as to ensure the effective introduction of organisational change. This will require project managers and aid agencies to have a better understanding of cultural change and procedures in developing countries. This paper concludes by suggesting that project managers and aid agencies in developing countries must actively promote strategic planning as a means of improving the performance of their large industrial projects. In summary, if work today is done through projects, as is surely the case, then working smarter on projects will allow organisations in developing countries to reform strategic and operational challenges in future.

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