

## CHAPTER 6

### FINAL CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 INTRODUCTION

This chapter presents the final conclusions and summary of the research. Some recommendations are also made for future research.

In section 6.2 the characteristics of the research population are summarized. Section 6.3 summarizes the general orientation of the respondents, employed in public sector work departments, to project management. Section 6.4 summarizes and presents final conclusions on the management of organizational change which is implied should formalized project management be implemented in public sector work departments. Section 6.5 summarizes and presents some final conclusions on the force field analysis of project management. In this analysis both success-driving and success-restraining factors were identified in the implementation of formalized project management in public sector work departments. Section 6.6 presents final conclusions on the theoretical assessment of the chances of successfully implementing project management.

In section 6.7 recommendations are made for future research. These recommendations are based on the researcher's perceptions of areas of project management implementation in public sector departments generally, which should receive further attention. Finally, section 6.8 presents the chapter summary.

## 6.2 SUMMARY OF THE RESEARCH POPULATION CHARACTERISTICS

### ■ Number of the respondents

The original research population comprised nineteen public sector work departments which before 27 April 1994, existed in the Republic of South Africa. This number includes the four independent TBVC states and the six self-governing territories.

Research questionnaires were sent out to all these institutions, but because of the first all nonracial, democratic elections held on 27 April 1994 (this event brought about the reincorporation of the independent states into South Africa and the abolishment of the self-governing rule), a number of work departments had to be excluded from the original research population. The work departments thus excluded from the study were those of the former independent states and self-governing territories. The revised estimated size of the research population was reduced to 240 potential respondents. Of this revised figure, a total of 172 questionnaires were received back, representing a response rate of 72 percent.

### ■ General categorisation of the respondents

The respondents were broadly categorized into two groups. Firstly, according to managerial level (top, middle and lower management) and secondly, according to the extent of current application of project management (formal, informal or no application). The breakdown of the respondents in the different managerial levels was top-level management (15% of all the respondents), middle management (58%) and lower or functional management (27%). The breakdown of the respondents in the different application levels was formal project management (43% of all the respondents), informal project management (37%) and no project management (20%).

#### ■ **Average number of years worked**

The overall average number of years that respondents had worked in a public sector department was twelve. The breakdown in the different managerial groups was sixteen years for top management, thirteen years for middle management and six years for lower management. In the case of the breakdown in the different application groups, there were no real variations from the overall average.

#### ■ **Professional status of the respondents**

The overall breakdown of the respondents in the different professional groups was architects (24%), engineers (32%), quantity surveyors (23%) and "others" (21%). The "others" category included personnel, such as land surveyors, town and regional planners, valuers, and works supervisors.

#### ■ **Highest formal qualification of the respondents**

The overall breakdown of the highest formal qualification of the respondents was degrees (69%), diplomas (20%) and "other" (11%). The personnel in the "other" category generally held senior certificates.

### **6.3 SUMMARY OF GENERAL ORIENTATION TO PROJECT MANAGEMENT**

#### ■ **General orientation to project management**

Overall, 53 percent of the respondents perceived that their department held a positive, 41 percent a neutral and only 6 percent a negative attitude to project management. Top-level management was generally more positive than both middle and lower management. In the case of the breakdown in the different application groups, group I (where formal project management is already applied) was significantly more positive to group II (where informal project management is applied) and group III (where no project management is applied). Group III indicated the highest proportion of

negative departmental attitudes.

Focusing on the respondents' own attitude to project management, overall, 83 percent held a positive, 14 percent a neutral and only 3 percent a negative attitude. Top-level management was again more positive than both middle and lower management. Group I was also generally more positive than both groups II and III.

#### ■ **General knowledge of project management**

Overall, 35 percent of the respondents felt they had a good knowledge of project management concepts and philosophy, 50 percent an average knowledge and 15 percent a limited knowledge. Generally, top-level management indicated their perceived knowledge of project management concepts and philosophy as good while middle and lower management as average. Group I also perceived their knowledge as better than both groups II and III.

With regard to knowledge about project management techniques, 23 percent of the respondents overall felt they had a good knowledge, 38 percent an average knowledge and 39 percent a limited knowledge. Generally, top-level and lower management indicated their knowledge of project management techniques as average while middle management as limited. Groups I and II also indicated an average knowledge while group III only a limited knowledge.

### **6.4 SUMMARY OF MANAGEMENT OF ORGANIZATIONAL CHANGE**

#### ■ **Past performance of departments**

Overall, 35 percent of the respondents believed that the past performance of their department was good in meeting its objectives, 56 percent believed it was average and only 9 percent believed it was poor. The different

managerial and application groups showed little variation from this overall belief. With regard to the past performance of the department in utilizing its resources efficiently, overall, 24 percent of the respondents believed it was good, 58 percent believed it was average, and 18 percent believed it was poor. The different managerial and application groups again showed little variation from this overall believe. In summary, then, most respondents believe that the past performance of their departments in meeting their objectives and utilizing their resources efficiently are average or good. The past performance of the departments is thus generally perceived as effective.

■ **Disrupting forces which restrain the performance of departments**

Overall, 81 percent of the respondents confirmed that there were disrupting forces which restrained their department from obtaining optimal performance. The confirmation percentages in the different managerial and application groups showed little variation from this overall percentage.

■ **Adjustments needed inside departments**

Overall, 84 percent of the respondents confirmed that adjustments inside the department were necessary in order to maintain or improve on their past and present performance. The confirmation percentages in the different managerial and application groups showed little variation from this overall percentage.

■ **Origin of disrupting forces**

Overall, 55 percent of the respondents believed that the origin of forces providing the greatest stimulus for change was external. With the exception of top-level management, all other managerial and application groups held this belief.

#### ■ **General attitude of departments to change**

Overall, 56 percent of the respondents believed that their department generally resisted changes. With the exception of top-level management and group I, where formal project management is applied, all other managerial and application groups held this belief. With regard to the general attitude of the departments to the initiation of changes, 56 percent of the respondents overall believed that changes were infrequently initiated. With the exception of top-level management, all other managerial groups and application groups again held this belief.

#### ■ **Contribution of implementing project management**

Overall, 78 percent of the respondents confirmed that they believed implementing project management would contribute to a solution for dealing with the disrupting forces which affected their departments. The confirmation percentages in the different managerial and application groups showed little variation from this overall percentage.

#### ■ **Number of changes needed for implementing project management**

Overall, 29 percent of the respondents believed that many changes would be needed in order to effectively and efficiently implement project management in their departments, 69 percent believed that some changes were needed, while only 2 percent believed that no changes would be needed. In the case of the breakdown in the different managerial groups there was little variation to this indication. In the case of the breakdown in the different application groups, group I believed the number of changes to be significantly less than group III.

#### ■ **Time needed to implement project management**

Overall, 63 percent of the respondents confirmed that they believed that substantial time was needed to implement project management. Top-level management, however, believed that implementing project management

would not require substantial time.

■ **Extensiveness of changes needed to implement project management**

Overall, 53 percent of the respondents confirmed that they did not believe that extensive changes were needed to implement project management. Middle management, however, believed that extensive changes would be needed to implement project management. Groups II and III also believed that extensive changes would be needed to implement project management.

■ **General attitude of personnel to implementing project management**

Overall, 55 percent of the respondents confirmed that the general attitude of personnel employed within their departments to implementing project management was favourable. The confirmation percentages in the different managerial groups showed little variation from this overall percentage. In the case of the breakdown in the different application groups, groups II and III did not show a clear indication whether personnel within their departments would be either favourably or unfavourably disposed to implementing project management.

■ **The use of an outside consultant to manage implementation**

Overall, 55 percent of the respondents rejected the notion that an outside consultant would be the best to manage the implementation of project management. Lower management did not show a clear preference in the use of an outside consultant or not. In the case of the breakdown in the different application groups, group III believed that an outside consultant would be best to manage the implementation of project management.

■ **Objects of change for implementing project management**

Overall, the rank order of the objects of change for implementing project management with the greatest priority were (1) procedures (organizational

processes) (2) functions (individual task behaviour) (3) direction (strategic direction) and (4) attitudes (organizational culture). The rank orders in the different managerial and application groups showed little variation from this overall pattern.

#### ■ **Methods of change for implementing project management**

Overall, the rank order of the methods of change for implementing project management which were the most appropriate were (1) structural (2) human-oriented (3) managerial and (4) technological. The rank orders in the different managerial and application groups showed little variation from this overall pattern.

#### ■ **Change policies for implementing project management**

Overall, 57 percent of the respondents confirmed that a change policy for implementing project management should allow for gradual implementation. The confirmation percentages in the different managerial groups showed little variation from this overall percentage. In the case of the breakdown in the different application groups, group I did not show a clear indication whether a change policy for project management should allow for either gradual or immediate implementation.

#### ■ **Change strategies for implementing project management**

Overall, the rank order of the change strategies for implementing project management which were the most appropriate were (1) informational (2) facilitative (3) attitudinal and (4) political. The rank orders in the different managerial and application groups showed little variation from this overall pattern.

#### ■ **Critical activities for implementing project management**

Overall, the rank order of the most critical activities for implementing project management were (1) implementing (2) supporting (institutionalization) and

(3) feasibility. The rank orders in the different managerial and application groups showed little variation from this overall pattern.

■ **Persons suited to fulfil change management positions**

Overall, the rank order of the best persons suited for implementing project management were the change manager should be top-level management, the change agent should be middle management and the change targets should be lower or functional management. The rank orders in the different managerial and application groups showed little variation from this overall pattern.

■ **Sources of resistance to implementing project management**

Overall, the rank order of the greatest source of resistance (or barrier to) when implementing project management were (1) understanding (2) acting and (3) acceptance. The rank orders in the different managerial and application groups showed little variation from this overall pattern.

■ **"Easy fit" for project management**

Overall, 66 percent of the respondents confirmed that they believed that project management would easily fit into "the way things were done" in their department and also "the way people thought and acted". The confirmation percentages in the different managerial groups showed little variation from this overall percentage. In the case of the breakdown in the different application groups, group III believed that project management would not easily fit into "the way things were done" in their department and also not with "the way people thought and acted". Based on the Pearce and Robinson (1985) model, departments generally are in the "synergistic position" where emphasis should be placed on reinforcing the existing organizational culture.

#### ■ **Change of organizational structure**

Overall, 67 percent of the respondents confirmed that they believed that the organizational structure had to be changed in order to implement project management. The confirmation percentages in the different managerial and application groups showed little variation from this overall percentage.

#### ■ **Continued application of project management**

Overall, the rank order of the best means to ensure the continued application of project management was (1) management support (organizational leadership) (2) personnel attitudes (organizational culture) and (3) structure (structural adjustments). The rank orders in the different managerial and application groups showed little variation from this overall pattern.

#### ■ **Managerial assignment positions**

Overall, the rank order of the most effective managerial assignment position for implementing project management was (1) internal management only (2) combination of internal and new outside management and (3) new outside management only. The rank orders in the different managerial and application groups showed little variation from this overall pattern. Based on the Pearce and Robinson (1985) model, departments generally are in the "stability situation" where the major emphasis should be on the use of existing managers via internal promotions and transfers.

### **6.5 SUMMARY OF THE FORCE FIELD ANALYSIS OF PROJECT MANAGEMENT**

#### ■ **Contributing philosophical factors**

Overall, the following factors may be considered significant philosophical contributors to the implementation of project management: top-level management commitment and support for the project management

concept, the routine involvement in project-type activities, realistic project objectives being set, the use of integrative planning and control, the key project management elements of project manager, project team and project management system, and training and education in project management concepts, methods and techniques. In the different managerial groups, another significant factor for top-level management was: a project-oriented information and control system. In the different application groups, other important factors for group III were the application of the systems approach to management, the clear definition of project success, a project-oriented information system, and the possible advantages of project management.

#### ■ **Contributing situational factors**

Overall, the following factor may be considered a significant situational contributor to the implementation of project management: the effective control of projects during execution. Important situational contributors were the ability to increase the strength of the driving forces of project success, coordinating and integrating large projects with interdisciplinary and independent activities, the ability to deal with complex tasks in both slow and fast changing external environments, and a sensitivity to environmental influences. In the different managerial and application groups, there were no other significant or important situational contributors.

#### ■ **Contributing organizational factors**

Overall, the following factors may be considered important organizational contributors to the implementation of project management: effective transitional management, a dynamic organizational structure, and an adaptable organizational form. In the different managerial groups, another important factor for middle management was a matrix organizational structure. In the different application groups, there were no other significant or important organizational contributors.

#### ■ **Contributing job-dimensional factors**

Overall, the following factors may be considered significant job-dimensional contributors to the implementation of project management: communication and information sharing between participants, commitment and cooperation between project participants, and the variety of project manager roles which need to be performed. Important job-dimensional contributors were the principal responsibility of the project manager for the project end-item, a cohesive project team, and the interface role of the project manager. In the different managerial groups, another important factor for top-level management was that the project manager be held accountable for the success/failure of a project. In the different application groups, another important factor for group III was also that the project manager be held accountable for the success/failure of a project.

#### ■ **Contributing human-oriented factors**

Overall, the following factors may be considered significant human-oriented contributors to the implementation of project management: the managerial proficiency of the project manager, the desired personal characteristics of the project manager, and the behavioural, business and technical skills of the project manager. Other important human-oriented contributors were leadership through participation and delegation, and participant satisfaction through all project stages. In the different managerial and application groups, there were no other significant or important human-oriented contributors.

#### ■ **Restraining factors**

Overall, the following factors may be considered important restrainers in the implementation of project management: the failures due to an unsuitable project manager, the failures due to the user not being involved, the failures due to unsupportive top-level management, and traditional management approaches which are used for project-type work. In the

different managerial groups, another important restraining factor for lower management was a purely functional differentiated organization. In the different application groups, other important restraining factors for group III were the high tendency of conflict in project environment, and the staffing complexities of the project team.

## **6.6 SUMMARY OF THE THEORETICAL CHANCES OF SUCCESSFULLY IMPLEMENTING PROJECT MANAGEMENT**

### **■ Chances of successfully implementing project management**

Overall, 7 percent of the respondents believed that the chances of successfully implementing project management were small (less than a 25% chance of success), 22 percent believed the chances were limited (25% but less than a 50% chance of success), 51 percent believed the chances were reasonable (50% but less than a 75% chance of success), and 20 percent believed the chances were good (greater than a 75% chance of success). In the case of the breakdown in the different managerial groups there was little variation to this indication. In the case of the breakdown in the different application groups, group I believed that the chances of successfully implementing project management were significantly higher than groups II and III did.

### **■ Improvement of chances of successfully implementing project management**

When this indication of theoretical chances of successfully implementing project management is compared to an earlier indication, where respondents were asked to assess the chances of success with the express condition that no changes were made in the current operations of their departments, the respondents generally indicated that the chances of success as higher. The higher chance of success reflects a theoretical position where the factors which respondents indicated as success-driving

forces are "present" (or "strengthened") and the success-restraining forces are "absent" (or "weakened"). The importance of these factors may be linked to this higher theoretical chance of successful implementation of project management.

■ **Correlating contributing factors with a high chance of successful implementation of project management**

Contributing factors in project management implementation which showed significant correlations with a high theoretical chance of successfully implementing project management were the division of the project into distinct life cycle phases, the interface role of the project manager, the influence of the project manager in supplementing the lack of formal authority, and leading the project team primarily through participation and delegation.

■ **Correlating restraining factors with a low chance of successful implementation of project management**

Restraining factors in project management implementation which showed significant correlations with a low theoretical chance of successfully implementing project management were the possible disadvantages of project management and the high tendency of conflict in project environments.

## **6.7 RECOMMENDATIONS FOR FUTURE RESEARCH**

Acknowledging that the formal application of project management in public sector work departments is more prevalent than was believed prior to this study, the researcher is of the opinion that future research on project management implementation should be focused on detailed issues.

In this regard, emphasis should be placed on researching areas such as:

- Possible causal relationships, such as, why given a certain set of conditions in a department, a particular method of change or strategy for change is the preferred alternative for the implementation of project management.
- What other factors may be relevant in the implementation of project management given the inconclusive, uninterpretable results of the factor analysis of the success-driving and success-restraining forces.
- Whether the obtained results for this research would also be applicable to other public sector departments (such as the Departments of Agriculture, Water Affairs, and Defence) involved in project-type work.
- A comparative study to determine whether implementing project management in public sector departments is significantly different to organizations of the private sector.

## 6.8 CHAPTER SUMMARY

This last chapter presented the final conclusions and summary of the research together with recommendations for future research.

In section 6.2 the characteristics of the research population were summarized. Respondents were categorized into three managerial levels (top-level, middle and lower management) and three application groups (formal, informal and no project management). They generally represented professional employees, who on average had worked in a public sector department for twelve years.

Section 6.3 summarized the general orientation of the respondents to project management. Most respondents believed that their departments

held a positive attitude to project management. Top-level management and group I (respondents where formal project management was already being applied) generally perceived the attitude of their departments as more positive than the others. Most respondents themselves felt positive to project management while, top-level management and group I again were more positive than the others.

Section 6.4 summarized the management of organizational change and presented some final conclusions. While most respondents perceived the past performance of their departments as effective, they also agreed that implementing project management would contribute to a solution for dealing with the predominant external forces which destabilized and restrained their departments from obtaining optimal performance. Most respondents also agreed that some changes had to be made in order to implement project management, that gradual implementation was the preferred course of action and that an outside consultant would not be the person best suited to manage the implementation. Organizational procedures were the object of change with the greatest priority and the preferred method of change was structural. The change strategy most appropriate was informational while the greatest source of resistance was a barrier to understanding. While most respondents, with the exception of top-level management, believed their departments generally resisted and infrequently initiated changes, most respondents (but not group III) believed that implementing project management would easily fit into "the way things were done" in their department and also "the way people thought and acted". Based on the Pearce and Robinson (1985) model, departments generally are in the "synergistic position" where emphasis should be placed on reinforcing the existing culture.

Section 6.5 summarized the force field analysis of project management and presented some final conclusions in this regard. Both significant and

important contributing factors were confirmed in the five categories of philosophical, situational, organizational, job-dimensional and human-oriented factors. Generally, more significant factors were present in the philosophical and job-dimensional categories than the others. Important restraining factors were also confirmed. These closely resemble the three levels of causes of project management failures identified by Nicholas (1990) in his model.

Section 6.6 presented final conclusions on the theoretical assessment of the chances of successfully implementing project management. Most respondents believed that, should project management be implemented according to their indication of relative importance of success-contributing and success-restraining factors, the chances of success would be reasonable or good. Prior to their indication, respondents were generally evenly disposed to the chances of success being reasonable and good or limited and small.

In section 6.7 recommendations were made for future research. These recommendations were based on the researcher's perceptions on areas of project management implementation in public sector departments generally, which should receive further attention.