

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them.

Sir William Bragg (1862-1942)

6.1 INTRODUCTION

Organisations that have not traditionally been involved in projects are increasingly turning to project management without fully understanding its underlying philosophy, principles and practices. This 'project management rush' by organisations of all kinds results in a situation where many organisations are faced with the dilemma of not doing as well as they had anticipated. Projects fail daily and cost organisations money. They often do not know what the causes for their losses and failures are.

One of the causes of project failure is that the organisational culture in which these projects have to deliver results is not supportive of project work (Cleland, 1988; Gray & Larson, 2000; Wang, 2001). The overall organisational environment, as an operational culture, should in fact be supportive of project principles and practices, otherwise projects cannot succeed optimally (Graham & Englund, 1997).

The literature and research conducted in this field is limited and focus mainly on sub-sections of project management culture, such as a project manager's professional culture (Wang, 2001), project team culture (Gray & Larson, 2000), or a supportive project environment (Graham & Englund, 1997).

The primary objective of this study (see Chapter 1) was: *‘to develop a reliable holistic diagnostic assessment tool to measure project management culture, as an operational culture, in organisations’*. (The term 'reliable' in this instance refers to the ability of the assessment tool to differentiate between organisations.)

Sub-objectives were also formulated in support of the primary objective and to facilitate the research process. To conclude on the answers to these sub-objectives a brief summary is given in the next section.

6.2 CONCLUSION ON ANSWERS TO THE SUB-OBJECTIVES

The sub-objectives or secondary research questions (see Chapter 1) were answered in the literature study (see Chapter 2) and the rationale for methodology used (see Chapter 3). A brief conclusion on the answers to the sub-research is given.

- *Is a project management culture, as an operational organisational culture, able to contribute towards business success in organisations that use project work?*

The literature (see Chapter 2) states that organisational culture does contribute towards business success (Turner & Simister, 2000; Ashkanasy *et al.*, 2000b; Kotter & Heskett, 1992; Furnham & Gunter, 1993), and that project culture does contribute towards project success (Cleland, 1994; Lientz & Rea, 1999; Gray & Larson, 2000).

Therefore a project management culture, as operational culture in an organisation doing project work, should be able to contribute towards business success and thus project success.

- *Do businesses regard the measurement of organisational culture and project management culture as necessary or value-adding to business?*

The measurement of work-based values and corporate culture is central to business improvement and sustainability. If one cannot measure something one cannot monitor its progress as part of organisational management and business process improvement (Maullin & Townsend in <http://www.cfoweb.com.au/stories>). Knutson (2001) supports the measurement of project management in organisations, because it can result in prolonged utilisation of the philosophy, principles and practices of project management and therefore sustain the profession of project management.

Therefore the measurement of an organisation's project management culture could enable an organisation to identify possible stumbling blocks and focus corrective action that might lead to continuous improvement. It can also sustain the project management approach and result in the enhancement of the project management profession.

How should organisations (those currently engaged in and those that want to apply project work) assess their project management culture?

The literature reviewed (see Chapter 2) reveals a variety of often conflicting theoretical positions and a lack of empirical support for many of the measures of organisational culture. The development of an organisational culture assessment tool, which is perceived to be valid, should clearly reflect the emerging research perspectives on organisational culture and should look at the total context and not just be focused on a singular dimension.

Since project management is regarded as a holistic and interdisciplinary field, applied in an open system of multiple interdependent parts (sub-

systems) an assessment of a project management culture in organisations should view such a culture as a holistic phenomenon, inclusive of strategies, structures, systems, processes, people's behaviour and the environment.

- *What process should be used to develop a holistic organisational culture assessment tool that can be used to assess the project management culture (as an operational culture) in organisations?*

The literature reviewed (see Chapter 2) clearly stated that a thorough theoretical foundation based on the multi-disciplinary construct should be compiled and used in the development of an organisational culture assessment tool.

The model or framework on project management culture compiled by Du Plessis (2001) was used as multi-disciplinary construct based on a thorough literature review.

De Witte and van Muijen (1999) have also expressed their concern about researchers and practitioners of organisational culture's failing to address a number of crucial aspects in conducting their research. They have indicated a range of the critical questions, which should be taken into account by every researcher in organisational culture (see Chapter 3), which were done in this study.

The step-by-step scale development process (see Chapter 3) of DeVellis (1991), confirmed by Clark and Watson (1995) was followed to develop the scale instrument.

In conclusion, the sub-research questions above could be positively answered from the literature reviewed. These answers provided the

background to the empirical part of the study and thus supported the inputs to the main research question or primary objective.

6.3 VERIFICATION OF THE PROJECT MANAGEMENT CULTURE MODEL BY EXPERTS

The following research question first had to be answered before the actual development of the project management culture assessment tool could proceed.

- *What should a supportive organisational culture for optimal project success consist of? (What are the components/elements of a project management culture?)*

Lawshe's (1975) quantitative content validity technique was used to determine the perception of project management experts based on the model or framework on project management culture and its descriptive elements derived from previous research by Du Plessis (2001). The results derived from the content validity technique showed that sixty-three (63) out of the sixty-seven (67) descriptive elements included in the validity assessment questionnaire of a project management culture (see Table 5.2) have a content validity ratio of higher than 0.50.

This concludes that the theoretical construct of the project management culture framework and descriptive elements were perceived by experts (well qualified and experienced in the field of project management- see Chapter 5) to be valid and thus acceptable to be used in the development of a project management culture assessment tool.

6.4 CONCLUSION AND ANSWER TO THE PRIMARY OBJECTIVE PROJECT MANAGEMENT CULTURE ASSESSMENT TOOL (PMCAT)

The project management culture assessment tool (PMCAT) developed has a five-factor scale and a total of 89 items (see Chapter 5, Table 5.27). This was derived from applying the research process described in Chapter 4 and statistical techniques such as item analysis (SAS, 1997) and exploratory factor analysis (BMDP, 1993) on the initial 135 variables under the four construct theoretical model developed by Du Plessis (2001) and verified by project management experts.

The results from the empirical research (see Chapter 5) indicated that the overall reliability of the items in the final five-factor scale is highly acceptable with a Cronbach alpha coefficient of 0.928, 0.915, 0.855, 0.822 and 0.853 respectively, which are all substantially higher than the acceptable minimum level of 0.70. The scale inter-correlation (see Chapter 5, Table 3.35) showed that the factors are highly inter-correlated which can be expected from an interdisciplinary, holistic construct of factors that are systemic in nature.

The results from the empirical research on developing the scale instrument indicated that the PMCAT is an acceptable, valid and reliable tool. However this did not confirm that it could be used as a diagnostic tool which can differentiate between organisations in terms of their project management culture.

The PMCAT was tested in two independent organisations (see Chapter 4) to determine if the instrument is a reliable diagnostic tool that can distinguish between organisations.

The conclusion from testing the PMCAT in two different organisations was that it can distinguish between organisations and therefore could be successfully applied as a diagnostic instrument, since there was a statistically significant difference between the two organisations tested.

The final conclusion that can be made to answer the primary research question is that *the project management culture assessment tool (PMCAT) developed through this research*

- *is holistic in nature and measures a total project management construct by means of a five-factor scale;*
- *is reliable (statistically proven);*
- *can be used as a diagnostic tool because it can significantly distinguish between organisations; and*
- *is perceived to have a valid construct and is acceptable to project management experts in a diverse range of organisations.*

6.5 LIMITATIONS OF THE PRESENT STUDY

This study did not focus on developing an assessment tool for a specific culture (as per project) or any sub-system of the project or organisation *per se*.

Due to the study sample it cannot be generalised to say that this tool (PMCAT) will be a reliable tool in countries other than reflected in the sample population, which is mainly South African.

6.6 CONTRIBUTIONS OF THE PRESENT STUDY

This study has contributed on multiple levels to the fields of project management and organisational behaviour.

Firstly, a holistic assessment tool (PMCAT) that can measure the project management culture of organisations has been developed.

This assessment tool can measure the current project management culture (an operational culture supportive of successful projects) of organisations. It can also be used as an informative (diagnostic) tool and a development tool to identify the areas for improvement to create a project management culture for project success.

Secondly, the availability of this assessment tool would enable organisations to assess or diagnose their present organisational culture's readiness for project work. The organisations that are hoping to reap the multiple benefits from getting involved in project management, will be able to use the PMCAT to assess their present capability and thus could improve their changes to be more successful in doing project work.

Thirdly, since this tool does not focus on a particular industry or nationality, but on the organisation as a holistic operational entity, which has to perform in an open system, this tool could be used generically. Gaps in the organisational culture, with regards to improving project work, can be identified. This can facilitate actions to improve the situation, thereby optimising project work for continuous business improvement.

Finally the body of knowledge on project management and organisational culture was expanded due to the findings in this research and serve as a

valuable contribution to the theory and research base of the interdisciplinary fields of project management and organisational behaviour.

6.7 RECOMMENDATIONS FOR FUTURE RESEARCH

This study has identified the need for further studies pertaining to "project management culture" and related areas. A brief description of the possible areas for further studies are provided by formulating a hypothesis or providing a brief problem statement:

- The key project management elements in a "project management culture" differ during each phase of the project lifecycle.
- The research process used in this study can be used as a guide to develop an assessment tool for evaluating the presence of a specific type of 'culture' in a project.
- The presence of a strong project management culture (using this tool as initial measurement tool) in an organisation contributes positively to project success.
- The interdependencies between people (stakeholders) in the project environment are an integrated network of interpersonal relations and communication, which can cause project failure if it is not managed. How should these interdependencies be managed to contribute towards project success?
- The variables in a project management culture are not significantly different in different types of organisations/industries.

- The expansion of this study to a global sample will contribute significantly to a globally relevant PMCAT.

6.8 CLOSURE

'Conclusion' seems an inappropriate word to use in relation to organisational culture, for culture has followed many paths in its conceptual history as indicated in the literature study (see Chapter 2). Lewis (1996b) states it as: 'I am convinced that organisational culture's relationship withis simply the latest of them. It may be a highway or it may turn out to be a dead-end street. Only when there are more documented cases available will the extent of the linkage become clearer'. Hopefully, this study has contributed to the body of knowledge pertaining to the multi-disciplinary fields of project management and organisational behaviour, in more particular to project management culture as an operational organisational culture and how to assess it.

May this not be a dead end street, but a cross-road contributing to theory building and knowledge creation to feed the 'hungry mind' of the human's quest for success or continuous business improvement.

"LACTA ALEA EST" - Past the point of return. Manage the future not the present.