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A supportive organisational culture for project management in matrix organisations: A theoretical perspective

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Although the need for organisational cultures to be supportive of project management is frequently expressed in the project management literature, a comprehensive explanation of what supportiveness comprises, has not yet come to light. The field of organisational culture research recognises culture as a complex and multi-dimensional topic. To date, the project management literature has taken a superficial view of culture instead. It specifically lacks progress towards a converging set of organisational culture dimensions as predictors of effective project management. Against this apparent shortcoming, a research project was launched, aiming to define the dimensions of a project management supportive organisational culture. This article presents the findings of the literature study phase of this research. Ample evidence was found, although dispersed amongst a diversity of project management research themes, to give substance to the notion and to postulate a multi-dimensional framework of organisational culture expected to be relevant to project management. The researchers make no premature claims about the conclusiveness of the proposed framework, but introduce it as a thoroughly researched hypothesis for empirical study. The study makes its contribution by converging literature evidence, previously lacking such coherence, into a consolidated organisational culture perspective. The hope is that it will spark further theory development in respect of the organisational context of project management.

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Introduction

The project management literature has in recent years increasingly commented about the role of organisational culture in project management. The popularity of recommendations in this regard may easily suggest an underlying consensus about the ideal organisational culture for project management, further implying that organisational cultures could be profiled on a continuum stretching from supportive to non-supportive of project management. Disappointingly, it is hard to find sufficiently concrete and convergent evidence in the project management literature to form a clear understanding of the dimensions of such a cultural profile. As a result, it is neither easy to guide organisations about the areas of organisational culture that are crucial to project management, nor to assess their cultures on a scale of project management supportiveness.

The organisational culture literature addresses culture as a comprehensive, multi-dimensional subject. The persistent definitions reflect culture as both deep and extensive, and as impacting on a wide range of organisational activities. A similar scope of the topic is, however, not commonly found in the project management literature. Project management authors often consider only a few organisational culture concerns in relation to a particular aspect of project management. The value of these contributions is not questioned, but what is of concern is the lack of a holistic, coherent approach, in line with the organisational culture research field. Given the complex nature of organisational

culture and the strategic difficulties associated with changing culture, it is considered not fair to advise organisations about culture change based on narrow perspectives and on loose-standing evidence.

In order to address this apparent weakness, a research project was launched. The first phase of this research was a literature study with the purpose of developing a conceptual definition of a supportive organisational culture for project management. Follow-up phases of this study are planned which will subject the conceptual formulation to empirical verification. Ultimately, the project aims to develop a diagnostic instrument that can discriminate between supportive and non-supportive organisational environments for project management. Such a capability should enable a more systematic and strategic approach to the implementation of project management by giving organisations insight into their strategic readiness for project management as well as into changes in culture required for supporting project management.

This article reports only on the literature research phase of the study. The findings of this research resulted in the proposal of a conceptual framework of a project management supportive organizational culture. The proposed framework has support from the literatures of both project management and organisational culture. As the title suggests, this research focused on the matrix organisation for reasons which are addressed in more detail later.

Background

What is organisational culture?

Pettigrew (1990: 424) associates culture with the forces of 'coherence and consistency' in the organisation. Culture is seen as a system of informal guidelines (Deal & Kennedy, 1982: 15) and as a form of social agreement that helps people understand how life in the organisation, including reward and punishment, works (Wilkins, 1983: 30). Organisational culture will, for example, be evident in the symbols and rituals of the organisation, as well as in the beliefs and ideologies of management, (Pettigrew, 1979: 574). The impact of culture is reflected in several key aspects of organisational functioning, like problem solving styles (Schwartz & Davis, 1981: 32), as well as organisational structure preferences, control systems, reward systems, and human resource practices (Pettigrew, 1990: 415). Other noted effects of organisational culture are: influencing perceptions about the distribution and legitimacy of power or authority (Pettigrew, 1979: 574; Pettigrew, 1990: 424), and applying a form of social control that makes people conform to group norms (O'Reilly, 1995: 318).

Organisational culture is potentially also a dysfunctional factor. In attempting to establish project management as a new management discipline, especially in an organisation with a functional hierarchy past, unexpected resistance may come from the culture of the organisation. Organisational culture is known for nurturing self-sustaining forces that tend to preserve past successful behaviours and sources of power, not recognising the need to adapt to changes in the environment or strategy (Deal & Kennedy, 1982: 137; Kilmann, 1985: 354-355; Kotter & Heskett, 1992: 11-12).

Why the matrix organisation?

Multi-functional project management is commonly associated with three different organisational structures, namely pure project, matrix, or virtual organisations (see Gray & Larson, 2002: 47-56). The impact of organisational culture on project management is, however, argued to be more significant in the matrix form. The findings of this study are therefore postulated as mainly applicable to the matrix organisation.

Many organisations using project management are *hybrid organisations* that execute projects alongside routine operational functions (Kerzner, 2000: 5). Frequently, a matrix form of organisation structure is implemented to reap the benefits of sharing the same resources between functional and project work. The matrix organisation, however, has become prone to several problems. These are mostly attributed to issues such as the dual authority principle and the resulting conflict between functional and project managers (Ford & Randolph, 1992: 278), the delicate authority balance between line and project management (Katz & Allen, 1985: 83; Pitagorsky, 1998: 7; Brown & Labuschagné, 2000: 39), and the gap between authority and responsibility often experienced by project managers (Nicholas, 2004: 484).

The matrix organisation is seemingly characterised by uncertain authority. In the previous section organisational culture was identified as influential in matters of authority and control in the organisation. It can be reasoned that, in unclear authority situations, organisational culture may be even more prominent in forming perceptions of who is in control and who has power. The negative side is that certain cultures may sustain attitudes that reinforce functional authority ahead of project authority.

The other two organisation forms differ from the matrix organisation in this respect. The pure project organisation (Gray & Larson, 2002: 50) is characterised by larger projects, semi-permanent project teams and project managers whose positions are firmly set in the hierarchy. Normally, project managers have full authority over their respective teams (Nicholas, 2004: 443). The typical matrix problems of dual reporting, conflicting priorities between line and project work, and unclear authority are largely absent. In the case of the virtual organisation, most project work is subcontracted to outside entities, like in the construction industry (Gray & Larson, 2002: 57). These external resources are contractually held to their commitments, giving the project manager a firm legal authority base. In the matrix organisation, project managers do not have these well-defined authority bases (hierarchical or legal) and they are likely to be more vulnerable to subtle organisational influences like culture.

This research problem that lies at the root of this study is therefore mainly associated with the matrix form of project organisation. Excluding the pure project and virtual organisations does not imply making explicit statements about the relationship between organisational culture and project management in these organisations, but they are argued to be sufficiently different in key aspects to justify approaching them as separate study topics.

Relevance of this study

Although project management has steadily grown in popularity in a diversity of industry sectors (Dinsmore, 1999: 6; Kloppenborg & Opfer, 2000: 59), evidence in the literature suggests that many organisations find the road to project management competence not that easy, and even problematic (Brown, 1999b; Frame, 1999: 184; Kerzner, 2000: 18-19).

In fields outside project management, interest in the empirical relationship between holistic organisational influences and indicators of desired performance have become widespread, for example, relationships with: financial performance (Van der Post, De Coning & Smit, 1998); marketing orientation (Jaworski & Kohli, 1993; Loubser, 2000); organisational innovativeness (Ahmed, 1998; Chandler, Keller & Lyon, 2000); and entrepreneurial behaviour (Covin & Slevin, 1991; Goosen, De Coning & Smit, 2002). Project management researchers have, despite a growing interest in human and behavioural factors (Kloppenborg & Opfer, 2000: 54; Project Management Institute, 1999: xv), concentrated more on the internal dimensions of project leadership and teamwork. Although recognition has been given to organisational culture or

climate as a likely influence on project management (e.g. Brown, 1999b; Cicmil, 1997; Elmes & Wilemon, 1988; Gareis, 2000; Gray, 2001; Gray & Larson, 2000: 243; Hunt, 2000; Kerzner, 2001: 81), little evidence of a systematic approach to the topic, or empirical confirmation has been offered. This shortcoming in project management culture research has been pointed out by Wang (2001: 5).

An objective and testable formulation of the dimensions of a project management supportive organisational culture is overdue. There is a need to address project management failure not only as defects in the methodology or in the behaviour within project teams, but also as shortcomings in how organisations strategically manage project management (Brown, 1999b; Maylor, 2001: 93). The diagnostic tools to enable such an approach have so far eluded the project management literature.

The context of organisational culture in this study

To clarify the concept of culture for the purpose of this study, it is necessary to distinguish between two different viewpoints found in the project management literature. The term *project management culture* is often used to imply a dedicated culture that becomes manifest within the project management capability in the organisation. In this sense, the word culture refers to the typical project management environment, including its methodologies, software, terminology, documentation templates, and behavioral styles (e.g. Gareis, 1994: 4.13, 4.15; Dingle, 1997: 250). Project management culture, in this context, should be seen as rather a sub-culture of the organisation's culture.

The focus of this study is not on the internal, sub-culture perspective, but on the more inclusive connotation of organisational culture. Thus, this study is interested in the culture that exists in the broader organisational environment that supports project as well as functional and other organisational activities. A similar understanding of the concept within project management is evident in work by Elmes and Wilemon (1988), Brown (2000), Gray and Larson (2000: 243), and Kerzner (2001: 81) and in the organisational climate study by Gray (2001: 106).

Research approach and methodology

The research process was organised in a specific way to ensure that the culture framework be developed on a sound theoretical foundation (Ashkanasy, Broadfoot & Falkus, 2000: 144). The research method followed is illustrated in Figure 1. The first consideration was to appropriately align the study with the domain of organisational culture research. For this purpose, Part A of the study consulted the organisational culture literature, specifically to: (a) position the study within an acknowledged cultural research orientation; and (b) ensure consistency with variables that are generally studied as dimensions of organisational culture. The second consideration was to keep the framework concise and focused, i.e. including mainly the dimensions that are judged to impact on the phenomenon of interest (Glick, 1985: 606). Part B of the study, therefore, targeted the project management literature to reveal the consistent organisational concerns reported from a project management point of view.

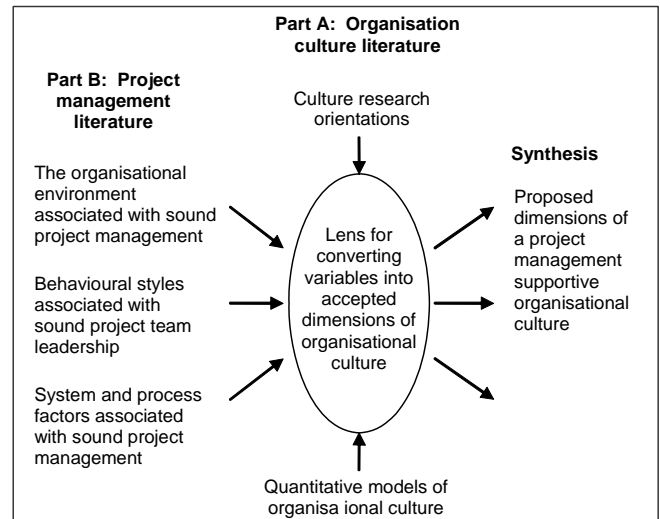


Figure 1: Literature research strategy

The illustration shows the types of project management and organisational culture literature studied in developing the framework. By following this approach, organisational variables, identified as relevant by studying the project management literature, could be interpreted in a systematic way and clustered as dimensions that enjoy a common understanding and acceptance as dimensions of organisational culture in the literature.

Literature research Part A: Establishing the generic dimensions of organisational culture

Cultural research orientation

The stated research objectives, which are interested in the relationship between organisational culture and project management, align this study with the *functionalist* (Denison & Mishra, 1995: 206) or *structural realist* (Ashkanasy, Wilderom & Peterson, 2000: 7; Denison, 1996: 620) tradition of culture research. The ultimate interest of this study, namely to develop an instrument that can measure organisational culture and empirically examine the assumed relationship, further places the study within the *quantitative* research school, which stands in contrast to the *qualitative* research school (Denison, 1996: 637; Ashkanasy, Broadfoot & Falkus, 2000: 133).

Quantitative organisational culture research, with the limitations of measuring culture by way of survey questionnaires, cannot effectively tap the deeper levels of culture (Schein, 1992: 185-186). Therefore, it has to shift its emphasis to the intermediate or manifest dimensions of culture, away from the deeper assumption and value levels (Schein, 2000: xxviii; Denison, 1996: 637). Although this lack of depth is often strongly questioned by qualitative cultural researchers (e.g. Schein, 1996: 11), quantitative cultural research has become acknowledged for its complementary role in bringing additional insight to the broader understanding of organisational culture, especially through its suitability for large scale comparative studies and statistical inferences (Ashkanasy, Broadfoot & Falkus,

2000: 133; Rousseau, 1990: 185; Cooke & Szumal, 1993: 1322).

Dimensions of organisational culture

In the organisational culture literature, there are many earlier generation studies that have produced a multitude of different constructs and a diversity of dimensions. However, a later generation of studies has started to build upon the earlier studies by consolidating the dimensions into more convergent frameworks. This later body of literature was argued to be an adequately representative foundation for identifying the commonly accepted dimensions or themes of cultural studies. Six of these studies were chosen for this research, as listed below. These studies find themselves in the functionalist and quantitative orientation of cultural studies, as discussed in the previous section. Their concept of organisational culture dimensions is mainly concerned with managerial matters and ideologies, but these have become accepted as a legitimate perspective of cultural research (Zammuto, Gifford & Goodman, 2000: 278).

- (a) Van der Post, *et al.* (1997: 149) started with 114 dimensions from previous studies and consolidated these into a fifteen dimensional framework through peer panel consultation and subsequent empirical testing.
- (b) Ashkanasy, Broadfoot and Falkus (2000: 141) developed a ten dimensional Organizational Culture Profile (OCP) instrument from eighteen previous surveys.
- (c) Delobbe, Haccoun and Vandenberghe (2002: 10-11) started with 266 items based on analysing the dimensions of several existing frameworks and, through empirical testing and factor analysis ended with a nine-factor framework.
- (d) Xenikou and Furnham (1996: 367) combined the items of four organisational culture questionnaires in random sequence and, through empirical testing and factor analysis extracted five dimensions.
- (e) Detert, Schroeder and Mauriel (2000: 852-858) used a peer-assisted process to review the dimensions found in previous studies in order to conceptually propose a set of eight dimensions of organisational culture considered to be conducive to Total Quality Management (TQM).
- (f) Jaworski and Kohli (1993: 54-57) defined a set of dimensions to study the top management beliefs and structural arrangements that could be seen as organisational antecedents to an effective marketing orientation.

Table 1 displays a list of seventeen dimensions or themes revealed by studying and combining the above frameworks. The frequency column in the table indicates how many of the frameworks contain each dimension. In **Appendix A** more detail on this analysis is given by way of cross-referencing each dimension with the corresponding dimensions in the different frameworks. The list shown in Table 1 demonstrates a fair degree of convergence of the

dimensions among the frameworks studied. The first ten dimensions have support from three or more of the sources. Nevertheless, all seventeen dimensions could be judged to have support from a substantial body of earlier studies as this is what had motivated their inclusion in the later frameworks consulted.

Table 1: Culture dimensions revealed by the literature

No	Dimension or theme	Frequency
1	The degree of flexibility, change tolerance, risk tolerance, innovativeness	6
2	The degree of cooperation, integration, teamwork between departments	6
3	The degree of emphasis on task, outcomes, goals, high performance	6
4	The degree of formalisation, structure, control, bureaucracy	5
5	The orientation of styles of leadership and people management	5
6	Preferences about where decisions and power should be concentrated	4
7	The emphasis on customers, market & ext. environment	3
8	The degree of organisational direction and focus	3
9	The importance of people competency and training	3
10	The degree of people orientation	3
11	The degree of communication and openness	2
12	The approach to how staff is rewarded	2
13	The degree to which culture is actively managed	1
14	The basis of truth and rationality in the organisation	1
15	The degree to which members identify with the organisation	1
16	Nature of time and time horizon in the organisation	1
17	The approach to integrating new staff	1

Literature research Part B: Developing the dimensions of a project management supportive organisation

This part of the research made use of a diversity of project management literature sources to construct a picture of what the ideal project management culture might be like. This process extracted numerous organisational variables that, either, directly address organisational culture, or address crucial relationships between project management and the organisation, or suggest typical project management styles of behaviour and relationships which might require corresponding patterns in the broader organisation and management.

The generic cultural dimensions (from Part A) were now used as a template for analysing and clustering the project

management derived variables. This process found that twelve of the generic dimensions showed an adequate correspondence with the project management variables to propose them as the framework for a project management supportive culture. Each of these dimensions and the relevant supporting evidence from the project management literature is shown in the following sections.

Dimension 1: A flexible and innovative organisation

An important concern that frequently receives attention in the project management literature is the issue of organisations that are too functionally rigid and bureaucratic to allow proper cross-functional conduct. Several authors show a preference for a more flexible organisation. The literature also emphasises other aspects of flexibility, such as flexibility in how authority is exercised and accepted, and tolerance of risk, change and innovative behaviour. The list of statements is shown in Table 2.

Table 2: The need for flexibility and innovativeness

No	Criteria	Citations
A	The organisation should be comfortable with change	Ford & Randolph (1992: 282); Dvir, Lipovetsky, Shenhar & Tishler (1998: 930); Cleland (1999: 421); Gareis (2000: 18)
B	A project management organisation should avoid an emphasis on bureaucracy and vertical reporting	Archibald (1992: 22); Ford & Randolph (1992: 282); Cleland (1999: 255); Gareis (2000: 18); Kerzner (2000: 144)
C	There must be an environment of creativity, innovation and stimulating work	Thamhain & Wilemon (1987: 133); Dvir, Lipovetsky, Shenhar & Tishler (1998: 930); Gadeken (2000: 250)
D	There should be flexibility in accepting leadership based on expertise as opposed to only position	Thamhain & Gemmil (1977: 222); Kerzner (1995: 33); Cleland (1999: 251); Brown & Labuschagne (2000: 38); Gray & Larson (2000: 294)
E	There should be flexibility within project execution	Tatikonda & Rosenthal (2000: 419)
F	There should be a fair level of risk tolerance and a capability to manage risks in projects	Randolph & Posner (1988: 72); Gray & Larson (2000: 294); Kerzner (2000: 170)

Dimension 2: The organisation needs to be integrated across departments

The consistent call for different departments in organisations to work in an integrated and cooperative way towards organisational goals is not surprising given the cross-functional nature of project management. Several authors draw attention to aspects that confirm the need for the organisation to have a collaborative culture, to promote teamwork, and to focus on the collective capabilities to its disposal. Table 3 summarises the criteria.

Table 3: Organisational criteria suggesting an integrated organisation

No	Criteria	Citations
A	The importance of a culture that encourages cooperation between functional units or departments	Ford & Randolph (1992: 282); Laufer, Denker & Shenhar (1996: 198); Dvir & Ben-David (1999: 151); Gray & Larson (2000: 236)
B	The negative effect of interdepartmental conflict and power struggles	Posner (1987: 51); Thamhain and Wilemon (1987: 133); Hurley (1995: 60-61)
C	A cooperative spirit in the organisation in general	Donnellon (1993: 391); Hurley (1995: 60-62); Frame (1999: 9); Kerzner (2001: 81)
D	A general comfortability with teamwork across functional borders in the organisation	Donnellon (1993: 389-390); Cleland (1999: 421); Frame (1999: 8); Gareis (2000: 18); Johns (1999: 53); Gray & Larson (2000: 236, 294); Kerzner (2000: 165, 219)
E	Reward systems reflect seriousness with teamwork and cooperation	Katzenbach & Smith (1994: 126); Graham & Englund (1997: 64); Cleland (1999: 255); Frame (1999: 37-38, 155)
F	Proper integration and sharing of responsibilities between functional and project management	Katz & Allen (1985: 83); Larson & Gobeli (1987: 138); Cleland (1999: 85); Kerzner (2000: 109, 218); Pinto (2000: 86)
G	There is an emphasis on the collective capabilities of the organisation	Pitagorsky (1998: 11); Cleland (1999: 486: 486); Gareis (2000: 18)

Dimension 3: An organisation that is performance driven

The project management literature gives strong support to a project management environment that is energetic, performance driven, and dedicated to pro-active planning and control. Also, the need to be clear on responsibilities and objectives is frequently emphasised. These requirements are shown in Table 4.

Table 4: The need for a performance-driven organisation

No	Criteria	Citations
A	There must be clarity of goals and performance criteria	Posner (1987: 51); Kerzner (1995: 38); Kerzner (2000: 213)
B	There must be clarity on responsibility and authority	Donnellon (1993: 388); Frame (1994: 7); Kerzner (1995: 241); Cleland (1999: 85); Kerzner (2000: 144); Pinto (2000: 86)
C	The organisation must be competitive	Kerzner (2000: 53,175)
D	There must be a strong will to accomplish	Katzenbach & Smith (1994: 175); Cleland (1999: 422); Gray & Larson (2000: 294)
E	There is an emphasis on planning and control	Posner (1987: 51); Gray & Larson (2000: 236)
F	There is an emphasis on pro-activeness and a quick response to solving problems	Kerzner (2000: 39,164)
G	Rewards are strongly influenced by performance	Thamhain & Wilemon (1987: 133); Randolph & Posner (1988: 72); Dinsmore (1999: 25)

Table 5: The need for standardised systems and processes

No	Criteria	Citations
A	The organisation must have a general inclination to emphasise processes (means) and not only the ends	Cleland (1999: 98); Gareis (2000: 18); Gray & Larson (2000: 236)
B	There must be a sound information infrastructure in the organisation	Laufer, Denker & Shenhar (1996: 198); Frame (1999: 9)
C	Information systems must be purposeful to serve the requirements of users	Graham & Englund (1997: 148); Dinsmore (1999: 25)
D	The accounting systems should be capable of serving the needs of project accounting	Archibald (1992: 18); Graham & Englund (1997: 45); Brown (1999a: 73); Frame (1999: 40); Kerzner (2000: 7)
E	The organisation should establish firm, standardised project management systems	Pitagorsky (1998: 15); Brown (1999a: 76); Frame (1999: 187); Johns (1999: 53); Tatikonda & Rosenthal (2000: 419)

Dimension 4: An organisation that supports its functioning through standardised processes and systems

Project management is, in contrast to the need to encourage flexibility and the freedom to be creative, also associated with a structured and systematic approach built around standardised routines, processes and control systems. The need to have accurate and reliable information from the

standard organisational systems is another important factor. Table 5 contains evidence that call for the organisation to be adequately equipped to support its functioning by providing standardised processes and systems, specifically possessing the ability to tailor its standard systems to the requirements of the task, instead of relying mainly on generic applications.

Dimension 5: A supportive leadership orientation in the organisation

Several sources confirm the need for a supportive, involved style of management or leadership at senior levels in the organisation. Calls are also made for similar leadership styles within project management. The need for top management support and organisation support is also one of the frequently cited success factors in the project management success literature (Morrison & Brown, 2004: 89). Support for this aspect is shown in Table 6.

Table 6: A supportive leadership style in the organisation

No	Criteria	Citations
A	Senior management demonstrates visible support for projects	Dill & Pearson (1984: 145); Kerzner (1995: 504); Kerzner (2000: 318)
B	Senior management shows involvement in the management of projects	Ford & Randolph (1992: 277); Graham & Englund (1997: 6)
C	Senior management displays an understanding of what project management entails	Graham & Englund (1997: 86); Brown (1999a: 76)
D	The supportive orientation is evident in the use of project sponsors to facilitate senior management support	Archibald (1992: 74); Donnellon (1993: 391); Graham & Englund (1997: 60); Dinsmore (1999: 35); Frame (1999: 7); Kerzner (2000: 163)
E	Distance by senior management is seen as a negative factor	Thamhain & Wilemon (1987: 133); Johns (1999: 50)
F	Supportive and involved leadership styles are practiced within project management	Kharbanda & Stallworthy (1990: 23); Dvir, Lipovetsky, Shenhar & Tishler (1998: 930); Cleland (1999: 486); Gray & Larson (2000: 236)
G	Participation by members in project teams are encouraged	Ford & Randolph (1992: 277); Hurley (1995: 60, 61, 66); Cleland (1999: 486); Gray (2001: 108)

Dimension 6: An organisation that is comfortable with decentralising its decision-making

The need for relatively high levels of autonomy and authority for project managers and other key project team leaders is also frequently advocated in the literature. See Table 7.

Table 7: The need for delegating decisions and autonomy

No	Criteria	Citations
A	The organisation is highly decentralized in respect of decision-making	Cleland (1999: 486); Frame (1999: 6); Kerzner (2001: 81-82)
B	High levels of autonomy and decision-making are delegated to project managers and the project management function	Frame (1994: 11); Graham & Englund (1997: 86); Dinsmore (1999: 51); Kerzner (2000: 315)
C	Within project management, decisions are delegated down to the specialists	Hurley (1995: 60-61); Fleming & Koppelman (1996: 165); Dvir, Lipovetsky, Shenhar & Tishler (1998: 930)

Table 8: The need for an external focus

No	Criteria	Citations
A	The organisation has an external or customer focus	Johns (1999: 50); Gareis (2000: 18)
B	The organisation display a sensitivity towards its environment and external stakeholders	Cleland (1999: 149); Dinsmore (1999: 59); Gray & Larson (2000: 236)
C	There is a closeness to the customer at project management level	Gareis (2000: 18); Kerzner (2000: 51)
D	Project management is practiced with a business or entrepreneurial mindset	Frame (1994: 12, 51); Graham & Englund (1997: 164); Kerzner (2000: 161)

Dimension 7: An organisation that has an external or market focus

Project management is frequently used for developing a customer or end-user solution. For this reason, the process demands an ongoing interaction between the project team and the customer. Many authors give recognition to this fact and also suggest that organisations that have a basic customer focus would better accommodate project management. The need also to be externally focused in a wider sense is implied by the emphases on managing projects as a business and on paying attention to the interests of external stakeholders. A list of statements, which address this aspect of project organisations, is shown in Table 8.

Dimension 8: An organisation that has a clear strategic direction

Several authors assert that project management should take place in an environment characterised by a clear focus and direction. Statements in this regard include explicit calls for an organisation that has a clear focus, or strategic direction, the need for projects to clearly align with the organisation's strategy and direction, and other conditions that can be associated with an environment where there is organisation-wide alignment. The list is shown in Table 9.

Table 9: The need for a clear direction and vision for the organization

No	Criteria	Citations
A	The organisation has a clear strategic direction	Cleland (1999: 85); Frame (1999: 193); Maylor (2001: 93)
B	There is an aligned company value system	Johns (1999: 50)
C	Project goals are visibly aligned with the strategic direction of the organisation	Posner (1987: 52); Archibald (1992: 5-8); Graham & Englund (1997: 6); Cleland (1999: 13); Cleland (1999: 13)
G	There is a need for direction and a common outlook in team functioning	Katzenbach & Smith (1994: 109); Mueller (1994: 389)

Dimension 9: An organisation that emphasises personal competency development

Establishing a project management capability necessitates the adoption of a collection of new procedures and routines that differ substantially from the ordinary routines of an organisation. In addition, the nature of project work normally involves tasks that are uncertain and often technologically advanced. Therefore, competency plays an important role in the project management organisation. Projects demand skills both in dealing with the methodology and in coping with the functional or technical challenges. The literature expresses the need for organisations to have cultures that encourage learning and competency, and that trains its people, for example those shown in Table 10.

Table 10: The need for training and competency

No	Criteria	Citations
A	There is a general culture of learning, personal development and professionalism	Thamhain & Wilemon (1987: 133); Hurley (1995: 60-61); Dvir, Lipovetsky, Shenhar & Tishler (1998: 930); Dinsmore (1999: 153); Frame (1999: 187)
B	There is a culture of learning by the organisation	Dvir, Lipovetsky, Shenhar & Tishler (1998: 930); Cleland (1999: 482)
C	There is a general level of competency and managerial competency in the organisation	Thamhain & Wilemon (1987: 133); Laufer, Denker & Shenhar (1996: 198); Frame (1999: 42)
D	The organisation should be trained in project management skills	Dinsmore (1999: 59)
E	Extensive training for project managers	Kerzner (1995: 504); Dinsmore (1999: 149); Kerzner (2000: 168); Maylor (2001: 94)
F	Proper training for project staff	Kerzner (1995: 39); Graham & Englund (1997: 23); Dinsmore (1999: 59,60); Johns (1999: 53); Kerzner (2000: 173)

Dimension 10: A people-oriented organisation

The project management literature has increasingly placed emphasis on the human side of management. Therefore it is anticipated that project management should function more easily in organisations that hold a Theory Y view (as opposed to a Theory X view) of their employees and do not value people only for the work they deliver. Table 11 shows evidence that suggests a people-oriented organisation by emphasising, for example, a non-coercive environment, behavioural skills for managers, cohesion amongst employees and conditions that encourage longer term relationships between employees and the organisation.

Table 11: The need for a people-oriented organization

No	Criteria	Citations
A	The organisation fosters a non-threatening, non-coercive climate	Thamhain & Gemmil (1977: 220); Frame (1999: 36); Gray (2001: 108)
B	The organisation places an emphasis on the need for skills in managing people	Cleland (1999: 438); Dinsmore (1999: 51); Kerzner (2000: 168 - 170)
C	The organisation has a Theory Y mindset instead of Theory X	Cleland (1999: 486)
D	Members easily identify with the organisation	Mueller (1994: 389); Gray & Larson (2000: 236)
E	There is evidence of social cohesion between members	Dvir, Lipovetsky, Shenhar & Tishler (1998: 930); Dvir & Ben-David (1999: 151)
F	The organisation provides its people with career paths and prospects	Thamhain & Wilemon (1987: 133); Archibald (1992: 18); Brown (1999a: 75)

Table 12: The need for openness and communication

No	Criteria	Citations
A	The organisation must have a general culture of open communication	Randolph & Posner (1988: 70); Kerzner (1995: 38); Laufer, Denker & Shenhar (1996: 198); Dinsmore (1999: 202); Frame (1999: 187); Kerzner (2000: 219)
B	There must be an openness to air views and to challenge opinions	Frame (1999: 31); Gray & Larson (2000: 236); Gray (2001: 111)
C	There should be visibility and transparency of goals and operational information	Archibald (1992: 13); Kerzner (1995: 503); Frame (1999: 109)
D	People trust each other so that information gets shared	Katzenbach & Smith (1994: 109); Mueller (1994: 389); Graham & Englund (1997: 75); Cleland (1999: 490)
E	Lessons learnt are disseminated	Dvir & Ben-David (1999: 151)
F	There is an emphasis on the upward flow of communication	Thamhain & Gemmil (1977: 222)

Table 13: A rational decision-making orientation

No	Criteria	Citations
A	There is a rational basis for selecting projects, e.g. to support strategies	Cleland (1999: 100); Dinsmore (1999: 33); Kerzner (2000: 120)
B	Project selection must be based on measurable benefits	Cleland (1999: 108); Dinsmore (1999: 51); Kerzner (2000: 57)
C	Projects must be free from political, self-interest decision-making	Pitagorsky (1998: 15); Frame (1999: 34)
D	There must be stability in project priorities	Thamhain & Wilemon (1987: 133); Gray (2001:108)
E	Project goals must be set realistically	Posner (1987: 51); Archibald (1992: 18); Cicmil (1997: 394-395)
F	Goals must be set with due consideration to the resources available	Posner (1987: 51); Thamhain & Wilemon (1987: 133); Pinto (2000: 86)

Dimension 11: An organisation that fosters openness of communication and information

The dynamic nature of project management demands the fast and free flow of information and communication. Several statements in the literature can be associated with an organisation that has a general ambience of openness, communication and sharing of knowledge and information. This list is shown in Table 12.

Dimension 12: An organisation that makes decisions on a rational basis

The final dimension derives from support in the project management literature for organisations that take decisions on a rational basis. The need for this dimension is inferred from sources that directly call for a rational type organisation, but also from statements calling for project decision-making to serve the interests of the organisation instead of personal or political concerns, for projects to be selected on merit, for realism in setting project targets, and for backing project decisions by the necessary resource availability. The importance of rational goal setting is also acknowledged as one of the leading indicators of project management success (Morrison & Brown, 2004: 86). The list of statements is shown in Table 13.

Comparing the generic and project management derived dimensions

Table 15 shows a comparison between the dimensions extracted from the organisational culture literature and the dimensions selected and proposed as a project management supportive organisational culture. What this matching shows is that there is a relatively high degree of correspondence between organisational culture related concerns in the project management literature and the typical organisational variables studied within the domain of organisational culture.

Table 14: Matching the project management dimensions with the generic organisational culture dimensions

Dimensions addressing the organisational concerns of project management		Generic dimensions extracted from organisational culture literature		
No	Dimension	No	Dimension	Freq
1	A flexible and innovative organisation	1	The degree of flexibility, change tolerance, risk tolerance, innovativeness	6
2	The organisation needs to be integrated across departments	2	The degree of cooperation, integration, teamwork between departments	6
3	An organisation that is performance driven	3	The degree of emphasis on task, outcomes, goals, high performance	6
4*	An organisation that supports its functioning through standardised processes and systems	4	The degree of formalisation, structure, control, bureaucracy	5
5	A supportive leadership orientation in the organisation	5	The orientation of styles of leadership and people management	5
6	An organisation that is comfortable with decentralising decision-making	6	Preferences about where decisions and power should be concentrated	4
7	An organisation that has an external or market focus	7	The degree of emphasis on the customer, market and the external environment	3
8	An organisation that has a clear strategic direction	8	The degree of organisational direction and focus	3
9	An organisation that emphasises personal competency development	9	The importance of people competency and training	3
10	A people-oriented organisation	10	The degree of people orientation	3
11	An organisation that fosters openness of communication and information	11	The degree of communication and openness	2
	--	12	The approach to how staff is rewarded	2
	--	13	The degree to which culture is actively managed	1
12	An organisation that makes decisions on a rational basis	14	The basis of truth and rationality in the organisation	1
	--	15	The degree to which members identify with the organisation	1
	--	16	Nature of time and time horizon in the organisation	1
	--	17	The approach to integrating new staff	1

* The matching of this dimension is discussed below

Five of the original list of generic dimensions could be left out of the proposed framework as they had not shown a particular association with project management concerns. These five also had lesser support from the generic frameworks than most of the others selected.

One of the project management dimensions (denoted by *) is, however, not a straightforward match, and deserves further elaboration. This is discussed in the next section.

Clarifying the standardised processes and systems dimension (dimension 4)

This project management dimension is placed opposite a generic culture dimension that has a negative meaning in culture studies, namely, formalisation and control through bureaucratic rules and controls. The project management

context, however, suggests here a positive dimension, which is associated with appropriate standardisation and systems. Jaworski and Kohli (1993: 65) reported a related anomaly when they empirically found that the level of formalisation (the use of rules, norms, and sanctions) did not negatively impact on marketing orientation, contrary to their hypothesis. They concluded that the nature of rules and formalisation, rather than their mere presence, might be a more relevant source of variance.

In other topics of management, a positive side of formalised processes or systems is more commonly recognised, for example: systems that assist employees to apply self-control (Kerr & Slocum, 1981: 125); fast feedback systems as a source of job enrichment (Hackman, Oldham, Janson & Purdy, 1995: 70); and the use of operational technologies, like PERT for instance (Hall, 1981: 331). In the field of

knowledge management, the concept of organisational systems and formalised routines is positively viewed as structured organisational knowledge (De Long & Fahey, 2000: 114).

There is, therefore, adequate literature support to propose, in response to what the project management literature suggests, a positively directed dimension of formalisation. The project management literature, however, also recognises the negative influence of a bureaucratic style of formalisation. This aspect is provided for by the proposed flexibility dimension (Dimension 1) which is argued to measure the freedom from rules and bureaucracy suggested for project management. There is support for making this association from Kotter and Heskett (1992: 44-45) who consider a bureaucratic culture as the opposite of a flexible, risk-taking and entrepreneurial culture.

Discussion

Consolidating the findings

This study has conceptually combined two domains of study into the formulation of an organisational culture profile that can be postulated to measure the degree of supportiveness for project management, particularly in matrix organisations. Figure 2 graphically illustrates what this postulation implies. In the centre is the project management capability, which is normally set up with its own support infrastructure of project management tools and systems.

Scholars taking a closed-system view may judge this as a sufficient focus area for developing a project management competency. In a matrix organisation, however, project management is integrally involved with the wider organisation, typically relying on resources like functional expertise, facilities, information systems, administration processes, accounting procedures, and upper level managerial and decision-making processes on an ongoing basis. The scenario is one of interdependency, even competition, between project management and the rest of the organisation. A closed-system approach is too conservative in this case.

This study reflects an open-systems perspective of project management competence, as is illustrated by showing project management as an integral part of the wider organisation. What is further emphasised by this study is the importance of the wider organisation's culture as a determining influence in the relationship. The study has identified twelve dimensions of organisational culture believed to play a role in regulating the flow of organisational support and contribution towards project management. These twelve dimensions are put forward as a profile which should be able to measure the organisational environment on a scale of project management supportiveness. The illustration shows the twelve dimensions worded in a positively oriented way towards project management.

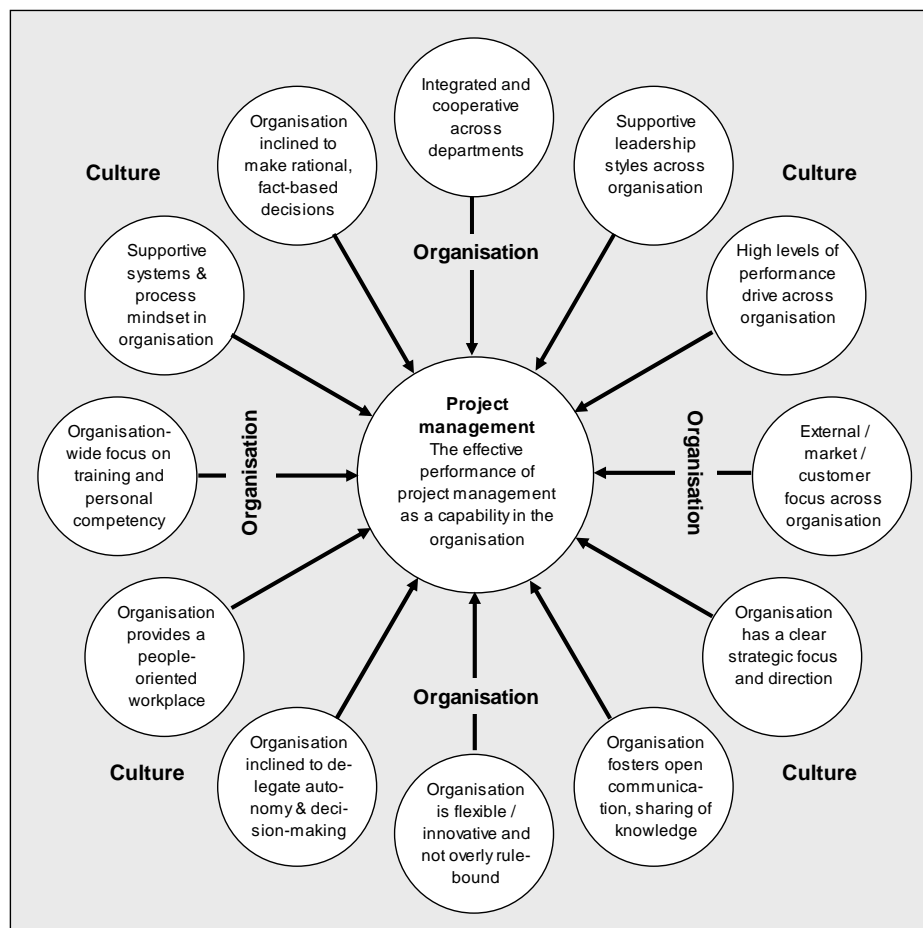


Figure 2: The proposed dimensions of a project management supportive organisational culture

Conclusion and recommendations

The findings of the study and especially the way organisational concerns in the project management literature matched those variables that are generally studied as dimensions of organisational culture, should convey a convincing message. Firstly, this should strengthen assumptions that organisational culture is indeed a relevant influence to project management. Secondly, it should also support a belief that the proposed dimensions largely capture the essential dimensions of a project management supportive organisational culture. It is important to add that there appeared to be a general consensus amongst different authors and different study themes. Very few, if any, studies reported findings and views that would suggest opposite or radically different requirements from the organisation.

Nevertheless, it must be re-emphasised that the purpose of this first phase of the research was not to offer a conclusive model of a supportive organisational culture for project management, but to further develop the popular thinking around the topic into a testable hypothesis. To date, the project management literature has not come up with such a comprehensive and theoretically derived culture framework for empirical analysis. The recommendations emanating from this study, therefore, are to test and further develop the conclusiveness of the framework through empirical research.

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Appendix A

1. The ten most frequently used cultural dimensions or themes in the selected literature sources

1	The degree of flexibility, change tolerance, risk tolerance, innovativeness	<ul style="list-style-type: none"> - Disposition to change (Van der Post, <i>et al.</i>, 1997) - Openness to change in a cooperative culture (Xenikou & Furnham, 1996) - Innovation (Ashkanasy, <i>et al.</i>, 2000) - Innovation-change (Delobbe, <i>et al.</i>) - Risk aversion (Jaworski & Kohli, 1993) - Stability vs. change, innovation and personal growth (Detert, <i>et al.</i>, 2000)
2	The degree of cooperation, integration, teamwork between departments	<ul style="list-style-type: none"> - Organisation integration: subunits work in coordinated way (Van der Post, <i>et al.</i>, 1997) - Inter-departmental connectedness (Jaworski & Kohli, 1993) - Teamwork (Delobbe, <i>et al.</i>, 2002) - Isolation vs. collaboration, cooperation: individual vs. group/teamwork (Detert, <i>et al.</i>, 2000) - Interdepartmental conflict (Jaworski & Kohli, 1993) - Openness to change in a cooperative culture (Xenikou & Furnham, 1996)
3	The degree of emphasis on task, outcomes, goals, high performance	<ul style="list-style-type: none"> - Performance orientation: clarity re results, accountability, performance (Van der Post, <i>et al.</i>, 1997) - Job performance - task orientation and performance (Ashkanasy, <i>et al.</i>, 2000) - Achievement-productivity (Delobbe, <i>et al.</i>, 2002) - Planning: focus on clear goals, plans to meet goals (Ashkanasy, <i>et al.</i>, 2000) - Goal clarity - clear objectives, performance expectations (Van der Post, <i>et al.</i>, 1997) - Orientation to work, task, coworkers: results, task emphasis component (Detert, <i>et al.</i>, 2000)
4	The degree of formalisation, structure, control, bureaucracy	<ul style="list-style-type: none"> - Task structure: rules, regulations and supervision (Van der Post, <i>et al.</i>, 1997) - Structure: limitations on members, policies, procedures (Ashkanasy, <i>et al.</i>, 2000) - Formalisation (Jaworski & Kohli, 1993) - Bureaucratic orientation (Delobbe, <i>et al.</i>, 2002) - Motivation: support provided by structures, processes part (Detert, <i>et al.</i>, 2000)
5	The orientation of styles of leadership and people management	<ul style="list-style-type: none"> - Management style: assistance, support, clear communication (Van der Post, <i>et al.</i>, 1997) - Supportiveness-recognition (Delobbe, <i>et al.</i>, 2002) - Commitment / involvement (Delobbe, <i>et al.</i>, 2002) - Motivation: the supportive component (Detert, <i>et al.</i>, 2000) - Employee participation: participating in decision-making (Van der Post <i>et al.</i>, 1997)
6	Preferences about where decisions and power should be concentrated	<ul style="list-style-type: none"> - Control, coordination and responsibility: the locus of power and decision (Detert, <i>et al.</i>, 2000) - Locus of authority: degree of authority, independence (Van der Post, <i>et al.</i>, 1997) - Structure: concentration of power (Ashkanasy, <i>et al.</i>, 2000) - Centralisation (Jaworski & Kohli, 1993)
7	The emphasis on customers, market & ext. environment	<ul style="list-style-type: none"> - Customer orientation (Van der Post, <i>et al.</i>, 1997) - Environment: responsive to clients, actions of similar organisations (Ashkanasy, <i>et al.</i>, 2000) - Orientation and focus: internal and/or external (Detert, <i>et al.</i>, 2000)
8	The degree of organisational direction and focus	<ul style="list-style-type: none"> - Organisation focus: activities that are fundamental to business (Van der Post, <i>et al.</i>, 1997) - Leadership: directing the organisation (Ashkanasy, <i>et al.</i>, 2000) - Control, coordination and responsibility: shared goals, vision part (Detert, <i>et al.</i>, 2000)
9	The importance of people competency and training	<ul style="list-style-type: none"> - Development of the individual (Ashkanasy, <i>et al.</i>, 2000) - Competence-training (Delobbe, <i>et al.</i>, 2002) - Stability vs. change, innovation, personal growth: personal growth part (Detert, <i>et al.</i>, 2000)
10	The degree of people orientation	<ul style="list-style-type: none"> - Human resource orientation (Van der Post, <i>et al.</i>, 1997) - Humanistic workplace (Ashkanasy, <i>et al.</i>, 2000) - Positive social relations in the workplace (Xenikou & Furnham, 1996)

2. The other (less frequently used) cultural dimensions or themes in the selected literature sources

11	The degree of communication and openness	- Communication: free sharing among all levels, upward and downward (Ashkanasy, <i>et al.</i> , 2000) - Top management emphasis: clear signals from top management (Jaworski & Kohli, 1993)
12	The approach to how staff is rewarded	- Reward orientation (Van der Post, <i>et al.</i> , 1997) - Reward systems (Jaworski & Kohli, 1993)
13	The degree to which culture is actively managed	- Culture Management (Van der Post, <i>et al.</i> , 1997)
14	The basis of truth and rationality in the organisation	- Basis of truth and rationality (Detert, <i>et al.</i> , 2000)
15	The degree to which members identify with organisation	- Identification with organisation (Van der Post, <i>et al.</i> , 1997)
16	Nature of time and time horizon in the organisation	- Nature of time and time horizon (Detert, <i>et al.</i> , 2000)
17	The approach to integrating new staff	- Socialising staff on entry (Ashkanasy, <i>et al.</i> , 2000)