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Cultural values influencing project team success

An empirical investigation in Ethiopia

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Abstract

Purpose – Information systems (IS) research in developing countries (DCs) has attracted increasing attention over recent years. Nevertheless, empirical studies in these countries in general, and particularly those drawing on the cultural values influencing project team success (PTS), are still far from satisfactory. Hence, scholars strongly recommend this specific area as prime research territory to improve the successful development and implementation of IS initiatives in DCs. The purpose of this paper is to provide better insights and an improved understanding about the cultural values influencing PTS.

Design/methodology/approach – In order to investigate the cultural values which may affect PTS, data were collected from project experts working on business process reengineering and information technology projects in ten public and private organizations in the service sector in Ethiopia ($n = 200$ questionnaires). A multivariate model was employed to identify the most important cultural values.

Findings – The results indicate that personally focused cultural values (e.g. openness to change) rather than socially focused cultural values (e.g. self-transcendence) have the most significant influence on project team performance. Moreover, cultural values (independent of their designation as personally or socially focused) were found to have a strong relationship with two out of three dimensions of PTS, namely, project team learning and development, as well as project team working spirit, when compared to project team leadership.

Originality/value – Identifying the relationships between cultural values and the dimensions of PTS contributes to the establishment of theoretical insights into the success factors of IS projects in DCs. Moreover, it also assists practitioners, particularly project managers, in maximizing the possibility of PTS, which has been shown to be a major determinant of overall project success.

Keywords Project teams, Information systems, Business process reengineering, Project team success, Cultural values, Information technology, Developing countries, Ethiopia

Paper type Research paper

1. Introduction

Information systems (IS) research in developing countries (DCs) has seen an increasing attention over recent years. Several studies make a strong case for extending existing frameworks or developing a different IS model suited to the context of DCs (Avgerou, 2008; Heeks, 2002; Mbarika *et al.*, 2005; Walsham and Sahay, 2006). The *Information Society* (Vol. 18 No. 2, 2002) and *MIS Quarterly* (Vol. 31 No. 2, 2007), for example, have published special issues dedicated to this topic, thereby substantiating the importance of research on IS in DCs. Among other topics in this upcoming research field, prominent

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scholars recommend more attention to the cultural context influencing the development and implementation of IS initiatives in DCs (Avgerou, 2008; Walsham and Sahay, 2006).

The significant influence of culture on IS development, implementation, and success is well documented in the IS literature (Kappos and Rivard, 2008; Leidner and Kayworth, 2006). In particular, given the low level of IS implementation success in DCs (Silva and Hirschheim, 2007), investigation into the influence of culture represents prime research territory. There are already some studies that provide first insights into the deep seated cultural problems that hinder IS implementation initiatives in DCs. Bada (2002), for example, in his study on an information technology (IT) based organizational change program in a Nigerian Bank, exemplifies the need to consider local culture and practices to understand IS initiatives in Africa. An empirical study by Silva and Hirschheim (2007), to state an example pertaining to America (i.e. the Guatemalan Ministry of Health), reveals the importance of soft factors like core values and beliefs for the successful implementation of an IT system. These and similar studies show that many of the major problems associated with IS projects in DCs are related to cultural values, which in turn may affect project success (Avgerou, 2008; Henrie and Sousa-Poza, 2005; Mbarika *et al.*, 2005; Walsham and Sahay, 2006).

Notwithstanding the contributions of research to date, empirical studies drawing on the cultural values influencing project teams in DCs are still far from satisfactory. Significant gaps still exist in our understanding of how cultural values may affect project team success (PTS) in the context of IS projects (e.g. business process reengineering (BPR), enterprise resource planning (ERP), outsourcing, and software development projects) in DCs. Therefore, in modern project management, the key challenge is to fully understand and reflect the nature of cultural values that either drive or undermine project team performance, a topic for which limited empirical evidence is available in the context of DCs. The present study seeks to contribute to closing this research gap.

Against this background, the main motivation for the present study comes from the fact that empirical data are hardly available linking measures of cultural values with the success dimensions of project teams within the context of DCs. In line with the argumentation of prominent IS scholars who posit that culture is a major determinant of IS success (Kappos and Rivard, 2008; Leidner and Kayworth, 2006), in this article we argue that cultural values may strongly affect project team performance, which in turn is an important antecedent of overall project success (Belassi and Tukel, 1996). Cultural values are of paramount significance and should be addressed; otherwise project teams may be unable to leverage the positive impact of their work on project success. The cultural values embedded within project teams have a determining impact on organizations' drive for process and structural change, a topic which is often overlooked in organizations, particularly in DCs. Thus, understanding the cultural values that drive project teams provides insights into what problems must be resolved if project teams should work successfully. Moreover, it is also important to redefine the conventional practices underpinning people management in projects in DCs. Thus, studying the cultural determinants of PTS and changing the attitudes and behaviors of people is generally seen as an important antecedent of organization-wide transformational programs involving BPR and IT projects (Beugre and Offodile, 2001; Hammer and Champy, 1995).

The key cultural values that strongly relate to the dimensions of PTS better inform practitioners, particularly project managers, to select the appropriate intervention strategy needed to enhance the successful delivery of IS projects. In order to better

understand the nature of the relationship that exists between cultural values and PTS in DCs, a field study was conducted which draws upon data collected from project staff working on BPR and IT projects within ten private and public organizations in the service sector in Ethiopia.

The remainder of this article is structured as follows: in Section 2, we begin by giving insights into the context of the study, and in Section 3 we put the conceptual framework of the study in perspective. In Section 4, we describe the research method. In Section 5, we outline and discuss the empirical results and summarize the main findings of the study. Finally, in Section 6, we reflect upon theoretical and practical implications of the findings, and we identify areas for future work.

2. Context of the study

Since the introduction of free market economy in 1991, the Ethiopian Government has embarked upon different reform packages to achieve sustainable socio-economic development in the country (e.g. commercialization of agriculture, industry and private sector development, and improvement of infrastructure and public services). The liberalization of the economy has led to major changes in the structure and level of economic activities. Private sector organizations have expanded tremendously, and as a result, various sectors in the economy have enjoyed steady growth in private investments. For example, from 1992/1993 to 2006/2007 alone, investment capital worth $34.42 billion for a total of 25,835 projects was approved by the Ethiopian Government (NBE, 2006/07, $1 $\approx$ Birr 9.608 as at June 30, 2008).

Despite this development, there remains a long way to go to maximize the benefits of many of the reform packages outlined by the government. For example, the Ethiopian Herald (2009) acknowledges that:

> [. . .] the stunning successive growth in the economic sector has so far *not* been accompanied by *efficient and effective* service sector. This reality has called for a reform program and re-engineering in the public sector (italics added).

Recognizing that a strong service sector is a critical success factor in supporting the socio-economic development of the country, the Ethiopian Government has taken successive measures to reform and transform the sector. Indeed, since the early 1990s, the service sector has contributed about 43 percent of the GDP (EEA, 2007), thereby substantiating its significant role for the prosperous development of the country.

As a consequence of the rapid development of the Ethiopian service sector, organization-wide transformational programs, which involve processes, structure, technology, and people (Heeks, 2002), have become increasingly more important during the past two decades (Mengesha and Common, 2006). Hence, BPR projects have become the driving forces of organizational change within the service sector, both in private and public organizations, to address and meet the new challenges, particularly those related to the quality of services. Moreover, because organizational process changes typically involve changes in the IT infrastructure (Grover *et al.*, 1994; Hammer and Champy, 1995), IT projects have also become increasingly more important in Ethiopia in the recent past (Kifle *et al.*, 2010).

In most of these BPR and IT initiatives, teams are created to handle these organization-wide projects. Although increased use of project teams has been shown to result in increased project success (Thamhain, 2004a; Webber, 2002), the expected

change has not come about fast enough and insufficient progress has been made so far in most organizations, particularly in the public service sector. The full range of benefits associated with using project teams is not always realized. Reengineering and IT initiatives are still in an experimental phase in Ethiopia (Mengesha and Common, 2006), and there are only a few success stories in some organizations (Ethiopian Herald, 2009). It is important to understand the factors that have hindered PTS, and a cultural perspective on the topic is expected to reveal significant new insights.

3. Conceptual framework

In Figure 1, we shows the conceptual framework of our study. The cultural values (the predictor set) are hypothesized to influence the dimensions of PTS (the criterion set). Based on work by Schwartz (2006), we group the cultural values along two factors, namely personally focused and socially focused values. This conceptual framework constitutes the theoretical basis for our empirical study, in which we assess the impact of each cultural value on each dimension of PTS. In the following, we discuss the cultural values (predictor set) and the dimensions of PTS (criterion set).

3.1 Cultural values

Cultural values are among the most pervasive and influential factors in all aspects of human life (Hofstede, 1984; Schwartz, 2006). These values contribute to a better understanding of both beliefs and attitudes, and they are the motivational basis of social behavior. Thus, shared cultural values serve a purpose in the interaction among group members (e.g. in project teams). They regulate the behavior of teams so that their collective action is organized as members interact more smoothly towards the successful accomplishment of group (project) objectives. In a recent study (Jetu *et al.*, 2011),

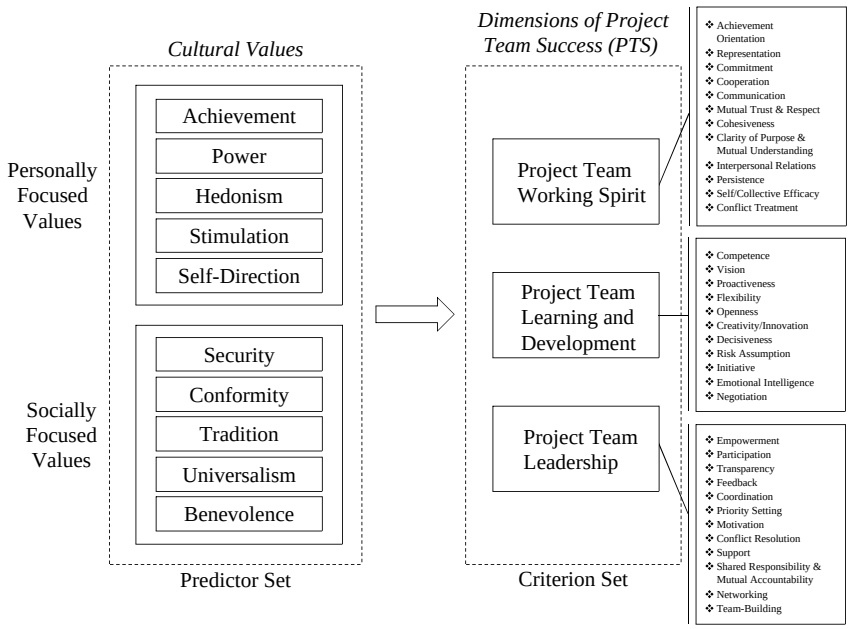

Figure 1.
Conceptual framework of the study

in which we investigate the cultural patterns influencing project team behavior in sub-Saharan Africa, we provide a comprehensive discussion on cultural patterns of a society and their manifestations in project team behavior.

As a result of the ubiquity of cultural values in society, and due to their impact on human behavior, these values constitute an important research topic. Yet, the broad and complex nature of the concept coupled with the problem of methodological issues make a research endeavor in this particular area extremely challenging (Leidner and Kayworth, 2006). The prevalence of the diversity of definitions, views, and interpretations of cultural values seems to elude precise measurement and a common understanding of the concept among scholars (Kappos and Rivard, 2008; Leidner and Kayworth, 2006; Schein, 2003). Over the past decades, a variety of different cultural dimensions have evolved. As a result, measuring and clearly delineating the impact of culture on outcome variables such as project team performance has become far more complex, and is likely to continue to be an intricate and challenging theme for researchers.

For example, many studies have sought to identify universal values that characterize and distinguish nations (Hofstede, 1981, 2001; Trompennars and Hampden-Turner, 1998; Schwartz, 2006; Chhokar *et al.*, 2007). Hofstede, based on research work across 50 countries, identified five bipolar dimensions along which cultures of nations differ (power distance, individualism, masculinity, uncertainty avoidance, long-term orientation). Hofstede's research notably influenced the body of IS literature. Leidner and Kayworth (2006), for instance, found out the prevalence of strong interest among many IS studies to use Hofstede's framework in examining the relationship between culture and IT. They provide a comprehensive summary of studies investigating the influence of national and organizational cultural values on IT development, adoption, and use.

Despite its significance, however, Hofstede's framework has been criticized (Schneider and Barsoux, 2003). Among the critical comments are the following four points. First, there is a lack of recency in the data, and the framework was derived from data from one company only, namely IBM, which may not be representative of the general population (Schneider and Barsoux, 2003). Second, there exists a problem of equivalence of meaning of the dimensions across cultures (Schwartz, 1994). Third, there is a lack of data from important regions in the world such as the former communist nations (Schwartz, 1999). Fourth, the framework has a relatively narrow focus on work values (Seriki, 2007). Moreover, scholars (Spector *et al.*, 2001) have also criticized Hofstede's measurement techniques.

Similar to Hofstede's work, the project GLOBE identified nine bipolar dimensions, namely assertiveness, future orientation, gender differentiation, uncertainty avoidance, power distance, collectivism versus individualism, family orientation, performance orientation, and human orientation (House *et al.*, 2004; Chhokar *et al.*, 2007). This project mainly identifies the relationship between culture and leadership effectiveness, as well as the cultural dimensions along which leadership and organizational practices of nations differ. GLOBE has not received as much attention as Hofstede's work.

Another investigation (Schwartz, 2006), based on data from over 70 countries, identified ten broad motivationally distinct cultural values (Drogendijk and Slangen, 2006; Sarros and Santora, 2001; Watson *et al.*, 2002): achievement, power, hedonism, stimulation, self-direction, security, conformity, tradition, universalism, and benevolence (Table I). Importantly, the Schwartz study provides an alternative perspective on cultural values and is believed to be a refinement of Hofstede's work. Nevertheless, apart from the mere

Cultural values	Motivational goals
Personally focused values	
Achievement	Personal success through demonstrating competence according to social standards (ambitious, successful, capable, and influential)
Power	Social status and prestige, control of dominance over people and resources (authority, wealth, preserving public image)
Hedonism	Pleasure or sensuous gratification for oneself (pleasure, enjoying life, self-indulgent)
Stimulation	Excitement, novelty, and challenge in life (daring, a varied life, an exciting life)
Self-direction	Independent thought and action; choosing, creating, exploring (creativity, freedom, independent, choosing own goals, curious)
Socially focused values	
Security	Safety, harmony, and stability within society, or relationships, and of self (family security, social order, clean, reciprocation of favors)
Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and likely to violate social expectations or norms (self-discipline, politeness, honoring parents and elders, obedience)
Tradition	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provides (devout, respect for tradition, humble, moderate)
Universalism	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature (equality, social justice, wisdom, broadminded, protecting the environment, unity within nature, a world of beauty)
Benevolence	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact (helpful, honest, forgiving, loyal, responsible)

Source: Adapted from Schwartz and Boehke (2004, p. 239)

Table I.
Cultural values and their motivational goals

identification of motivationally distinct cultural value types, the Schwartz investigation provides the full spectrum of cultural values that have equivalent meanings for individuals across cultures (Drogendijk and Slangen, 2006). Furthermore, as compared to Hofstede's work, Brett and Okumura (1998), cited in Drogendijk and Slangen (2006), stress the superiority of Schwartz's framework in terms of its theoretical basis, measurement and analysis techniques, and the relative recency of the data used. Probably even more important, this concept has received solid empirical support as it provides both high reliability (Schwartz, 2005), as well as external and convergent validity (Watson *et al.*, 2002). Considering these factors, the present study draws upon the Schwartz theory of value structures to identify and measure value priorities (in the present article a shared set of core values that influence PTS in organization-wide transformational programs involving BPR and IT projects).

According to Schwartz (2006, p. 4), cultural values are universal in nature as they are ingrained in three universal requirements of human existence:

(1) basic human needs;

(2) social interaction needs; and

(3) survival and welfare needs.

Consequently, cultural values, ordained by human needs, "are used [. . .] to explain the motivational bases of attitudes and behavior" (p. 2). Moreover, Schwartz asserts that "it is the trade-off among relevant values, not the absolute importance of any one value, which influences behavior and attitude" (p. 15).

Considering the work of Schwartz (2006) and Schwartz and Boehke (2004), differences among individuals, as well as groups, exist with respect to the value priorities they hold (i.e. the relative importance they attach to each value). Thus, if individuals place emphasis on one value type (e.g. self-direction values), they are likely to deemphasize other value types (e.g. security values). Based on the ten cultural value types (Table I), people are either personally focused, which may entail:

- self-enhancement (achievement and power); and/or
- openness to change (hedonism, stimulation, and self-direction) or socially focused, which may entail;
- conservation (security, conformity, and tradition); and/or
- self-transcendence (universalism and benevolence).

The present study draws upon Schwartz's (2006) concept to measure the value priorities of project teams and identify the values that have the strongest influence on the dimensions of PTS in Ethiopia. The instrument, the Schwartz Value Survey (SVS), is composed of 57 cultural attributes measuring ten cultural value types (see Appendix 1).

3.2 Project team success

With the objective to enhance the likelihood that project teams are successful, a significant amount of research has been conducted on the identification of the determinants of PTS. Many papers on team performance are based on team effectiveness models (Mathieu *et al.*, 2008), and the literature that typically focuses on the characteristics of successful project teams has proliferated over the past decade. Examples include investigations of project teamwork quality (Hoegl and Gemuenden, 2001), project team learning (Bresnen *et al.*, 2003; Jackson and Klobas, 2008; Sense, 2007a), project team leadership (Kaulio, 2008; Thamhain, 2004b; Weinkauf and Hoegl, 2002), project team integration (Baiden *et al.*, 2006), and project team achievement (Taveira, 2008). Despite the vast amount of studies on project teams, little work has been done on integrating the various studies on PTS.

A considerable body of literature (e.g. team effectiveness and management, cross functional teams, virtual teams, ERP teams) was analyzed to identify the wide array of factors that have been hypothesized to affect PTS. Most studies have focused largely on individual determinants of PTS. Against this background, the piecemeal studies available in the body of literature were recently integrated into a taxonomy consisting of three dimensions (Jetu, 2011).

Thamhain (2004a, b), for example, examines the influence of team leadership climate and project environment on the success of project teams in technology-based project teams. Based on his field study, he concludes that increased involvement of all project stakeholders, enhanced work support, good communication, active participation, effective risk management, and favorable project environment encourage team commitment and performance. Moreover, Hoegl and Gemuenden (2001), based on empirical evidence from 575 project team members, find that communication, coordination, balance of member contributions, mutual support, effort, and cohesion are the six facets of teamwork quality in innovative projects. In another empirical investigation, Gray (2001) identifies free expression of ideas and concerns, questioning, participation in goal setting, innovation, and intrinsic satisfaction from the work itself as important determinants of successful project teams. Moreover, in a recent article by Taveira (2008), management support,

correct team composition, team leader role, team training, negotiated decision-making approaches, and team effort were found to have a significant effect on team achievement and performance. A study by Soderlund (2004a) suggests a shift in emphasis on themes such as learning, participation, and commitment in order to better understand the behavioral aspects of project organizations. Findings by Jha and Iyer (2007) also stress the importance of commitment, coordination, and competence for project success.

In another study, Bishop (1999) identifies top management support, clarity of project objectives and scope, appropriate leadership, team autonomy, communication, reward system, and trust as well as respect as determinants of successful cross-functional project teams. An empirical study conducted by McDonough (2000) finds that project goals, empowerment of the team, assignment of appropriate human resources, and the creation of productive climate are important ground setting factors, while cooperation, commitment to the project, ownership of the project, and trust and respect among team members are the most important team behaviors in achieving the success of cross functional teams.

In a field study conducted by Soja (2006), factors like team composition, involvement, empowerment, and top management support are found to have the greatest influence on ERP implementation success. Similarly, Sarker and Lee (2003) emphasize strong and committed leadership, open and honest communication, and a balanced and empowered team as the social enablers of successful ERP implementation, while Nah and Delgado (2006) reveal that team composition, skills and compensation, and top management support are the most critical success factors for both the implementation and upgrade of ERP systems. Another empirical study by Parr and Shanks (2000) asserts the importance of management support and commitment to change as the necessary condition for the success of ERP implementations. Furthermore, Kirkman *et al.* (2002), based on interviews with 72 executives, team leaders, and team members, identify trust, cohesion, and team identity as important factors to virtual team success.

As a consequence of the vast amount of identified determinants of PTS, the literature is both diverse and fragmented. It is important to note that most of the studies reviewed are orientated towards the identification and discussion of a relatively distinct and limited set of factors, making a full understanding of the determinants very difficult. Moreover, most of the studies use different terminologies to describe similar phenomena. In general, there is little agreement on the specific dimensions that constitute PTS. There is an evident need to go beyond the simplistic discussion of the factors (antecedent conditions) leading to PTS. It is thereby possible to integrate a variety of factors that are hypothesized to affect PTS.

Three important themes that focus on team processes (the interaction between team members and corresponding performance implications), as well as actions that are relevant for the achievement of team goals (Mathieu *et al.*, 2008), tend to dominate the literature. Several scholars, for example, consider project team leadership as a vital means of ensuring that the performance of team members results in project success (Bishop, 1999; Cleland, 1995; Geoghegan and Dulewicz, 2008; Kaulio, 2008; Peterson, 2007; Thamhain, 2004a, b). Other scholars, in contrast, emphasize the importance of knowledge creation and sharing practices in project environments to provide members with the requisite knowledge to fashion creative responses to project demands, to develop a sense of self-competence and confidence, a shared commitment to the project and its objectives, and greater clarity on project work requirements (Bresnen *et al.*, 2003; Brookes *et al.*, 2006; Fong, 2003; Jackson and Klobas, 2008; Kasvi *et al.*, 2003; Kotnour, 2000; Liebowitz and Megbolugbe, 2003; Sense, 2007a). Still other scholars stress the importance of shared

vision and a unified sense of purpose that is needed to provide members with successful integration of individual thoughts and actions to achieve project objectives (Bishop, 1999; Fleming and Koppelman, 1996; Hoegl and Gemuenden, 2001; Johns, 1995; McDonough, 2000; Thamhain, 2004a, b). Considering the focus of these studies and the constructs that repeatedly appear in the literature, research on PTS can be grouped into three categories.

Although every single study reviewed has certainly advanced the understanding of PTS, it would appear advantageous, bearing in mind the diversity and fragmentation of the literature, to systemize and structure the existing insights in a way that makes an integrative thinking about the determinants of PTS possible. Building on both theoretical and empirical works (Jetu, 2011), a conceptualization that characterizes PTS along three major dimensions is used in this article. These dimensions strongly shape the success of project teams working on BPR and IT projects (Jetu, 2011). We therefore adopt this conceptualization that views the success of project teams along three dimensions, namely:

(1) project team working spirit;

(2) project team learning and development; and

(3) project team leadership (Figure 1).

In the following, we define the three dimensions.

Project team working spirit. This dimension includes determinants which measure the existence of shared vision and unified sense of purpose that is needed to provide members with successful integration of individual thoughts and actions to achieve project objectives (Hoegl and Gemuenden, 2001).

Project team learning and development. This dimension includes determinants which measure the existence of the creation, sharing, utilization, and application of knowledge to enhance individual and collective contribution to project performance and self-development (Kotnour, 2000).

Project team leadership. This dimension includes determinants which measure the existence of good project team leadership that fosters a favorable team environment, as well as mutual responsibility and accountability for project results (Thamhain, 2004a).

The three dimensions are operationalized on the basis of a number of determinants that broadly represent the defining characteristics of project teams and significantly contribute to PTS. As discussed above, they involve and focus largely on how members interact (project team working spirit), how knowledge is constructed and shared within project work settings (project team learning and development), and how leadership is provided (project team leadership). The methods and results of this review are presented elsewhere (Jetu, 2011).

For each of the dimensions, the determinants that are frequently mentioned and discussed in the literature were identified. The field study reported in this article is based on 35 determinants (Figure 1, right), for each of which we developed a definition on the team level based on the literature review. The 35 determinants are presented in Appendix 2 (note that a calculation of Cronbach's α revealed an internal consistency >0.70, indicating acceptable measurement reliability).

4. Method

4.1 Sample

The sample of the study consisted of ten public and private organizations (comprising telecommunications, banking, energy and transport) within the service sector in Ethiopia.

The selection of sample organizations focused on those that represent major institutional forms in the sector and provide services for profit. The number of employees in the sample organizations ranges from a minimum of 466 to a maximum of 12,688. The annual turnover ranges from a minimum of $4.48 million to a maximum of $957.42 million, while the total capital varies from $13.84 million to $2.14 billion. The total number of staff working on these projects in the chosen organizations was found to be 854. The budget allotted for these projects ranges from $0.57 million to $117.19 million (see Appendix 3).

A pilot survey was conducted with questionnaires presented in person to 22 project experts in five randomly selected organizations that were considered for the study. Comments were incorporated and some ambiguities were removed before conducting the actual field study. Data were collected through a group-administered questionnaire from 228 project experts (project managers, coordinators/team leaders, and experts/officers) working on BPR and IT projects (e.g. software development) within the ten organizations. After data cleaning and validation, 200 useable questionnaires were obtained for data analysis, thus yielding a useable response rate of almost 88 percent.

Of the total survey participants (project managers, project coordinators/team leaders, project members, and officers/experts), 85 percent were male. The modal age group of the participants is 31-40 years. They have diversified educational backgrounds, industry experience, and occupational status. Over 70 percent of the participants have earned a Bachelor degree, 23 percent a postgraduate degree, and about 5 percent a college diploma. The participants' fields of study include business/economics (56 percent), computer science/IT (16 percent), and engineering (16 percent), among others (12 percent). In terms of tenure, about 27 percent of the participants have industry experience ranging from three to nine years, while 59 percent of them have nine years and more. Nearly 12 percent of the participants have worked as project managers, about 32 percent as project coordinators/team leaders, 51 percent as experts/officers (members), and 5 percent served in more than one position. Regarding the average number of team size, we found that 56 percent of the respondents have worked with a team size ranging from five to ten members, which also represents the modal team size for the respondent population (see Appendix 3).

4.2 Data collection method

Respondents were asked to complete a 57 item-version of the SVS questionnaire (Schwartz, 2006) on a five point Likert-type scale ranging from "opposed to my values" to "of supreme importance to my values" to measure the importance they attach to the cultural values (see Appendix 1). Before we collected the data, the original SVS scale was transformed from the nine to a five point scale (Schwartz and Boehke, 2004), because the measurement of PTS was based on a five point scale (see next paragraph), thus making the results directly comparable.

Several methods exist for capturing the perceptions of participants in a survey on success attributes (Morey, 2003). We used a questionnaire designed with two attribute response modes, namely priority and performance, to measure the determinants of PTS (see, for example, Heinrich and Riedl (2004), who applied these two response modes to measure the success of application service providers). Here, the priority of a determinant indicates a stronger causal link between a determinant and project team viability, while the performance of a determinant indicates a stronger causal link between a determinant and project team performance.

Accordingly, the respondents were asked to indicate their opinion about the relative priority (in the sense of importance) of each of the 35 determinants of PTS using a five point Likert-type scale ranging from "not important" to "most important". Moreover, participants were also asked to evaluate the actual performance (in the sense of contribution) of each of the same 35 determinants in real project team settings of which they are (or were) a member using a five point Likert-type scale ranging from "very poor" to "excellent". The questionnaire covered the three dimensions of PTS (Figure 1): project team working spirit (12 determinants), project team learning and development (11 determinants), and project team leadership (12 determinants). The questionnaire covering the 35 determinants is presented in Appendix 2. The order of the items in all questionnaires used in this study was randomized.

All the determinants of PTS considered in the present study were defined and specified on the team level and refer to the project team as a unit of analysis. To obtain values that are strongly endorsed by most members of the project team members, survey data were aggregated from the individual level to the team level for analysis purposes.

4.3 Data analysis method

The study follows a correlational approach to measure the strength of overall relationships between the cultural values and the dimensions of PTS. A multivariate model, canonical correlation analysis (CCA), which is theoretically consistent with the objective of the study (Kerlinger and Lee, 2000, pp. 800-802), was employed to investigate the relationships. This method is particularly useful for exploratory investigations, such as the present study, which involves multiple independent and dependent constructs.

Specifically, CCA makes possible:

- the assessment of the total variance accounted for by the ten cultural values which we grouped into personally focused values and socially focused values (Figure 1);
- the identification of the most important cultural values; and
- the determination of how powerful each cultural value is in influencing the dimensions of PTS while other things being equal.

Before conducting the analysis, the data were checked for meeting CCA assumptions, namely linearity, multivariate normality, low multicollinearity, and homoscedasticity (Anderson, 1984; Hair *et al.*, 1998; Johnson and Wichern, 2007; Tabachnick and Fidell, 2007). The test of these assumptions using both scatter and QQ plots suggests that the assumptions for the present data were reasonably fulfilled (see Appendix 4). Moreover, the overall fitness of the model and the multivariate test of significance were checked to ensure the reliability of canonical functions for interpretation (see Appendix 5). Both indicate that the results of the study are reliable and unbiased. A detailed explanation of the CCA (the design, assumptions, and models) used is presented elsewhere (Jetu, 2011). SAS software package (version 9.1) was used for conducting the analysis. The results presented in the following section are based on $n = 200$ useable questionnaires.

5. Results

In order to investigate whether cultural values (the predictor set) influence the dimensions of PTS (the criterion set), the CCA was performed. A summary of the results is presented in Table II. We discuss the findings in the following, based on three CCA forms:

CCA form	Predictor set (cultural values) Priority	Predictor set (cultural values) Performance	Criterion set (dimensions of PTS) Priority	Criterion set (dimensions of PTS) Performance
Canonical weights	Universalism (+) (*SF*)	Power (+) (*PF*)	Project team learning and development (+)	Project team learning and development (+)
	Self-direction (+) (*PF*)	Benevolence (+) (*SF*)	Project team working spirit (+)	Project team working spirit (+)
	Conformity (+) (*SF*)	Achievement (+) (*PF*)	Project team leadership (−)	Project team leadership (−)
	Benevolence (+) (*SF*)	Self direction (+) (*PF*)		
	Security (+) (*SF*)	Universalism (+) (*SF*)		
	Stimulation (−) (*PF*)	Tradition (−) (*PF*)		
	Hedonism (−) (*PF*)	Stimulation (−) (*PF*)		
		Hedonism (−) (*PF*)		
Canonical loadings	Universalism (+) (*SF*)	Achievement (+) (*PF*)	Project team learning and development (+)	Project team learning and development (+)
	Conformity (+) (*SF*)	Self-direction (+) (*PF*)	Project team working spirit (+)	Project team working spirit (+)
	Benevolence (+) (*SF*)	Power (+) (*PF*)	Project team leadership (+)	Project team leadership (+)
	Self-direction (+) (*PF*)	Universalism (+) (*SF*)		
	Tradition (+) (*SF*)	Benevolence (+) (*SF*)		
Canonical cross loadings	Universalism (+) (*SF*)	Achievement (+) (*PF*)	Project team learning and development (+)	Project team learning and development (+)
	Conformity (+) (*SF*)	Self-direction (+) (*PF*)	Project team working spirit (+)	Project team working spirit (+)
	Benevolence (+) (*SF*)	Power (+) (*PF*)	Project team leadership (+)	Project team leadership (+)
	Self-direction (+) (*PF*)	Universalism (+) (*SF*)		
	Tradition (+) (*SF*)	Benevolence (+) (*SF*)		

Notes: Details underlying this summary of results are presented in Appendices 6-8; the sign (+) shows a positive relationship between the predictor set (cultural values) and criterion set (dimensions of PTS), while (−) shows a negative relationship; the sign (*PF*) represents socially focused cultural values, while (*PF*) represents personally focused cultural values

Table II.
Summary of CCA results

(1) canonical weights;
(2) canonical loadings; and
(3) canonical cross loadings.

The sign (+) in Table II shows a positive relationship, while (−) shows a negative relationship. The sign (*PF*) represents socially focused values, while (*PF*) represents personally focused values. Both predictor and criterion variables are presented based on their values in all three forms of the CCA. In Table II, we report the five most important cultural values.

The canonical weights were considered to determine the relative contribution of the variables (Figure 1) to the relationship between the predictor and the criterion sets. The result suggests that universalism, self-direction, conformity, benevolence, and security contribute the highest share to the predictor set on priority, while power, benevolence, achievement, self-direction, and universalism contribute the highest share to the predictor set on performance (Table II, second and third column). Moreover, project team learning and development contributes the highest share to the criterion set, on both priority and performance (Table II, fourth and fifth column). Also, project team working spirit positively contributes to the criterion set, on both priority and performance.

Stimulation (excitement and challenge in life) and hedonism (self-driven gratification) have negative relationships with the predictor set, on both priority and performance, while tradition shows such a relationship only on performance. Moreover, project team leadership (the suppresser variable) has a negative relationship with the criterion set. Further details on the canonical weights are reported in Appendix 6.

The canonical loadings were considered to interpret the nature of the relationships between the original set of variables in the criterion and predictor sets with the respective canonical variates (Hair *et al.*, 1998; Kuylen and Verhallen, 1981; Tabachnick and Fidell, 2007). All the variables have a positive, direct relationship with their respective canonical variates, on both priority and performance (see Appendix 7).

With respect to variables with a structure correlation of ≥ 0.30 (Hair *et al.*, 1998), universalism, conformity, benevolence, self-direction, and tradition, among others (see Appendix 7), load more than 0.60 on the first canonical variate of the predictor set on priority, while project team learning and development (0.99), project team working spirit (0.92), and project team leadership (0.81) load strongly on the first canonical variate of the criterion set on priority. The first canonical variate of the criterion set extracts almost 83 percent of the variance from its original set of variables, while the first canonical variate of the predictor set extracts 39 percent.

Moreover, the first canonical function reveals that achievement, self-direction, power, universalism, and benevolence all have > 0.45 loadings on the canonical variate of the predictor set on performance, while project team learning and development (0.81), project team working spirit (0.72), and project team leadership (0.51) have the highest loadings on the first canonical variate of the criterion set on performance. The first canonical variate of the criterion set extracts nearly 48 percent of the variance from its original set of variables, while the first canonical variate of the predictor set extracts 22 percent of the variance from its original set of variables (see Appendix 7).

The canonical cross loadings of the observed variables in one set correlate with each of the canonical variates of the other set (Hair *et al.*, 1998). Universalism, conformity, benevolence, self-direction, and tradition have high correlations with the first canonical variate of the criterion set on priority, and achievement, self-direction, power, universalism, and benevolence have high correlations with the first canonical variate of the criterion set on performance (see Appendix 8). Moreover, project team working spirit, project team learning and development, and project team leadership exhibit high correlations with the first canonical variate of the predictor set (0.4612, 0.4958, and 0.4070) on priority, as well as on performance (0.2438, 0.2740, and 0.1704).

Generally, however, the canonical cross loadings results on priority are higher than on performance (see Appendix 8).

The findings from the CCA show that the correlation of the predictor set is higher on the priority of the dimensions of PTS than on the performance. This indicates that the cultural values of project teams better predict the priority attached to the dimensions of PTS rather than their actual performance.

Moreover, considering the most important three predictor variables, personally focused cultural values (i.e. achievement, self-direction, and power) correlate more strongly with the performance of the dimensions of PTS, while socially focused cultural values (i.e. universalism, conformity, and benevolence) correlate more strongly with the priority of the dimensions. Hence, the perceptions held by project teams on socially focused values tend to shape and influence the importance they place on the dimensions of PTS. In other words, while the dominant views of project teams on socially focused cultural values determine and ensure the perceptions regarding the viability of project teams, the prevalence of personally focused cultural values results in improved project team performance perceptions.

Specifically, cultural values explain more of the variance in project team learning and development, as well as project team working spirit, when compared to project team leadership, in all three forms of the CCA. Both have been identified as the most appropriate measures that appear to gauge the extent to which cultural values of project teams influence PTS. This, in turn, suggests that determinants related to both dimensions are the strongest drivers of PTS in BPR and IT projects within organizations in the service sector in Ethiopia.

In addition, the canonical weights indicate that hedonism is perceived to have a negative influence on PTS, as in a collectivist society people are more likely to pursue collective rather than individual interests (Blut and Jones, 1997). Contrary to expectation, however, the negative influence of stimulation on PTS seems to be a reflection of the prevalence of weak individual initiative and effort, which is a well-known phenomenon in DCs like Ethiopia (Beugre and Offodile, 2001; Schneider and Barsoux, 2003). Tradition, finally, shows a negative relationship with performance, thereby replicating previous findings (Beugre and Offodile, 2001).

6. Summary, implications, and future work

A review of the body of IS literature revealed the existence of a research gap in IS development and implementation in the context of DCs. Among others, scholars strongly suggest the need to study the cultural context influencing the human element of IS related projects (e.g. BPR and IT). To provide better insights and an improved understanding about the cultural values influencing PTS, an empirical investigation involving project experts was conducted within ten organizations in the service sector in Ethiopia.

The present study draws upon the structure of human values to measure the value priorities of project teams and to identify the values that have the strongest relationship with the dimensions of PTS. We group the cultural values along two factors, namely personally focused and socially focused values. This conceptual framework (Figure 1) constitutes the theoretical basis for our empirical study, in which we investigate and identify the cultural values that either drive or undermine project team performance within the chosen organizations in the service sector in Ethiopia.

The notion that the cultural values of project teams influence the dimensions of PTS in BPR and IT projects was supported (Figure 1). The findings from the present study, although derived from the specific context of Ethiopia, reveal that an improvement in the cultural context of project teams (personally focused and/or socially focused values) is important for the successful delivery of BPR and IT projects in DCs.

Identifying such relationships has several implications for practitioners. It highlights the cultural values that need to be carefully considered and addressed in planning the formation of project teams. Ultimately, it assists practitioners, in particular project managers, in maximizing the possibility of PTS. They can make informed and better decisions when they know how each group of cultural values influences PTS. In particular, project managers may give priority to:

- personally focused cultural values to enhance project team performance; and/or
- socially focused values to improve team atmosphere.

Project managers should bear in mind that cultural values influence the extent to which project teams are ready to embrace BPR and IT projects, and this, in turn, affects the successful implementation. For example, Schwartz conservation values emphasize social order, security, and maintaining the status quo. Thus, project teams that emphasize conservatism are likely to feel threatened by the introduction of BPR and IT projects, since these entail change and may upset social order or harmony. Our empirical findings show that conservation values (like tradition and conformity) appear to be inconsistent with the dynamics of organization-wide projects (BPR and IT), and therefore they provide a weak contribution to project team performance. In contrast, openness to change values emphasizes self-enhancement through mastery of one's social environment and reflects the view that individuals are autonomous and are entitled to pursue self-fulfilling goals or interests. These values (like self-direction and power) appear to be compatible with project teams desiring change, and hence have a strong relationship with project team performance.

On the other hand, self-transcendence values, such as egalitarian commitment to promoting the welfare of others and a strong desire for freedom and equality, appear to be consistent with project team atmosphere, and these factors strongly influence the importance placed on the dimensions of PTS by project team members. Project team members with these values (like universalism and benevolence) tend to emphasize social relationships and helping others, and hence are more tolerant of different behavior and opinions. Thus, there is a positive association between these socially focused cultural values of project teams and the priority they place on the viability of project teams. Nevertheless, too much emphasis on self-transcendence values may negatively influence PTS, as members are less critical of project team performance. Here, individual initiative and excellence in performance may be considered less important than consensus and cooperation (Schneider and Barsoux, 2003).

Against this background, cultural issues need to be properly addressed during project team planning, particularly in DCs such as Ethiopia. This is because the assessment and consideration of cultural values during the project planning phase makes it possible to predict how project teams will function. Obviously, this predictive power may enhance the probability to deliver the desired results through the implementation of BPR and IT projects. It is essential for practitioners and project managers to address team formation

with the utmost care in considering the influence of cultural values on the desired beliefs, attitudes, and behaviors of people affected by organizational change programs involving BPR and IT projects. Jetu *et al.* (2011) provide recommendations on the design and planning of project teams and address three important interrelated questions for the successful implementation of BPR and IT projects. This consideration helps to identify in advance the specific actions needed to alter the cultural values of project teams (e.g. tradition and conformity) so that their possible negative influence on beliefs, attitudes, and behaviors does not emerge over the course of the implementation of these projects.

For instance, in a project environment in which personally focused cultural values (e.g. self-direction and power) are the driving forces, it is important to align the determinants of project team training and development (e.g. competence, creativity/innovation, risk assumption, emotional intelligence, openness, initiative, decisiveness) with the expectations and needs of project team members like personal growth, autonomy, task achievment, and financial rewards. Nevertheless, the creation and sharing of knoweldge is likely to take place when socially focused cultural values (e.g. universalism and benevolence) are embedded at the center of the learning proccess.

Sense (2007b), for example, while discussing the need for a better understanding of the learning phenomenon within the project context, suggests the need to recognize the practical and social aspects of learning apart from the cognitive processes. Moreover, findings from a study conducted by Bresnen *et al.* (2003, p. 165) show that "the process of knowledge capture, transfer, and learning in project settings rely heavily upon social patterns, practices, and processes." Thus, the ability to appropriate knowledge in project teams depends on the creation of the social conditions necessary for the sharing and maintenance of knowledge.

Similarly, socially focused cultural values (e.g. universalism and benevolence) are important for preserving project team working spirit (e.g. commitment, cooperation, communication, mutual trust and respect, interpersonal relations, conflict treatment, see Figure 1). These values foster the sharing of common purpose, cooperation with others, communication of relevant work information, trust and respect, and committment to project goals (McDonough, 2000; Thamhain, 2004b).

Nevertheless, our results indicate that the actual performance of project teams may be limited if personally focused cultural values are not given sufficient attention. This is because the absence of personally focused cultural values (e.g. self-direction and power) may cause weak sense of purpose, commitment, and motivation to support project objectives, which, in turn, leads to the:

> [...] adverse impacts of weak team characteristics like substandard performance, insensitivity to project problems, defensive shirking of responsibility, not completing tasks on time, people arriving late and leaving early, and the gradual erosion of team collaboration (Kloppenborg and Petrick, 1999, p. 12).

Such characteristics, in turn, may contribute to the weakening of team relationship over time, that is, undermine the potential contribution of socially focused cultural values (e.g. universalism and benevolence) in maintaining the viability of project teams.

This conclusion is also upheld by other researchers. Work by Thamhain (2004a, b), for example, has shown that projects that enhance the professional and personal needs

of project members and team atmosphere (team spirit) are crucial to ensure the success of projects. Nevertheless, the decision whether to give more emphasize to personally focused cultural values and/or socially focused cultural values largely depends on the level of team integration and the needs of project team members.

Therefore, with a better understanding of the nature of project team culture, practitioners will be able to make informed and better decisions on how to strike a balance between personally focused cultural values and socially focused cultural values in the successful implementation of BPR and IT projects. Hence, studies like the present one are useful to guide intervention strategies in pratice to improve the overall performance of these projects.

The present article seeks to stimulate a better inquiry into the influence of culture on PTS, which in turn predicts overall project success (Belassi and Tukel, 1996). The proposed conceptual framework (Figure 1) could be tested in different project work settings. Further research could replicate the present study in further DCs, as well as in Western countries like the USA or Germany. This would reveal the robustness of the present findings in various cultural contexts.

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Appendix 1. Cultural values and socio-demographic information questionnaires

Cultural values

The objective of the following questions is to assess how important each of the following values is for you as a guiding principle in YOUR life. Choose values that guide your life now, not values you wish to apply in the future. Please describe your value as you honestly see yourself now, in relation to other people. Use the rating scale below. As a guiding principle in MY life, this value is:

Opposed to My Values	*Not Important*	*Important*	*Very Important*	*Of Supreme Importance to My Values*
1	*2*	*3*	*4*	*5*

1	Equality (equal opportunity for all)	1	2	3	4	5
2	Inner harmony (at peace with myself)	1	2	3	4	5
3	Social power (control over others, dominance)	1	2	3	4	5
4	Pleasure (gratification of desires)	1	2	3	4	5
5	Freedom (freedom of action and thought)	1	2	3	4	5
6	A spiritual Life (emphasis on spiritual not material matters)	1	2	3	4	5
7	Sense of belonging (feeling that others care about me)	1	2	3	4	5
8	Social order (stability of society)	1	2	3	4	5
9	An exciting life (stimulating experiences)	1	2	3	4	5
10	Meaning in life (a purpose in life)	1	2	3	4	5
11	Politeness (courtesy, good manners)	1	2	3	4	5
12	Wealth (material possessions, money)	1	2	3	4	5
13	National security (protection of my nation from enemies)	1	2	3	4	5
14	Self respect (belief in one's own worth)	1	2	3	4	5
15	Reciprocation of favors (avoidance of indebtedness)	1	2	3	4	5
16	Creativity (uniqueness, imagination)	1	2	3	4	5
17	A world at peace (free of war and conflict)	1	2	3	4	5
18	Respect for tradition (preservation of time honored customs)	1	2	3	4	5
19	Mature love (deep emotional & spiritual intimacy)	1	2	3	4	5
20	Self discipline (self-restraint, resistance to temptation)	1	2	3	4	5
21	Privacy (the right to have a private sphere)	1	2	3	4	5
22	Family security (safety for loved ones)	1	2	3	4	5
23	Social recognition (respect, approval by others)	1	2	3	4	5
24	Unity within nature (fitting into nature)	1	2	3	4	5
25	A varied life (filled with challenge, novelty and change)	1	2	3	4	5
26	Wisdom (a mature understanding of life)	1	2	3	4	5
27	Authority (the right to lead or command)	1	2	3	4	5
28	True friendship (close, supportive friends)	1	2	3	4	5
29	A world of beauty (beauty of nature and the arts)	1	2	3	4	5
30	Social justice (correcting injustice, care for the weak)	1	2	3	4	5
31	Independent (self-reliant, self-sufficient)	1	2	3	4	5
32	Moderate (avoiding extremes of feeling & action)	1	2	3	4	5
33	Loyal (faithful to my friends, group)	1	2	3	4	5
34	Ambitious (hard-working, aspiring)	1	2	3	4	5
35	Broadminded (tolerant of different ideas and beliefs)	1	2	3	4	5
36	Humble (modest, self-effacing)	1	2	3	4	5
37	Daring (seeking adventure, risk)	1	2	3	4	5
38	Protecting the environment (preserving nature)	1	2	3	4	5
39	Influential (having an impact on people and events)	1	2	3	4	5
40	Honoring of parents and elders (showing respect)	1	2	3	4	5
41	Choosing own goals (Selecting own purposes)	1	2	3	4	5
42	Healthy (not being sick physically or mentally)	1	2	3	4	5
43	Capable (competent, effective, efficient)	1	2	3	4	5
44	Accepting my portion in life (submitting to life's circumstances)	1	2	3	4	5
45	Honest (genuine, sincere)	1	2	3	4	5
46	Preserving my public image (protecting my "face")	1	2	3	4	5
47	Obedient (dutiful, meeting obligations)	1	2	3	4	5
48	Intelligent (logical, thinking)	1	2	3	4	5
49	Helpful (working for the welfare of others)	1	2	3	4	5
50	Enjoying life (enjoying food, sex, leisure, etc.)	1	2	3	4	5
51	Devout (holding to religious faith & belief)	1	2	3	4	5
52	Responsible (dependable, reliable)	1	2	3	4	5
53	Curious (interested in everything, exploring)	1	2	3	4	5
54	Forgiving (willing to pardon others)	1	2	3	4	5
55	Successful (achieving goals)	1	2	3	4	5
56	Clean (neat, tidy)	1	2	3	4	5
57	Self-Indulgent (doing pleasant things)	1	2	3	4	5

Socio-demographic information

The objective of the following questions is to have information on the socio-demographic characteristics of the respondent population, the project team. Please kindly respond to each of the questions that follow.

1. Gender (please tick): ☐ Male ☐ Female

2. Age (please tick):
☐ Under 25 years old
☐ 26-30 years old
☐ 31-35 years old
☐ 36-40 years old
☐ 41-45 years old
☐ 46-50 years old
☐ Over 51 years old

3. Marital Status (please tick): ☐ Single ☐ Married ☐ Divorced ☐ Widowed

4. Family Size including dependents (please tick)
☐ None
☐ 1-2
☐ 3-4
☐ 5-6
☐ More than 7

5. Educational Achievement (please tick)
☐ College Diploma
☐ Bachelor Degree
☐ Postgraduate Degree
☐ Professional Certification

6. Educational Background
☐ Engineering
☐ Computer Science/IT
☐ Statistics/Mathematics
☐ Business/Economics
☐ Other, please specify_____

7. Tenure/Years of Service (please tick)
☐ 0 – 3 years
☐ 3 – 5 years
☐ 5 – 7 years
☐ 7 – 9 years
☐ 9 – 11 years
☐ 11 – 13 years
☐ 13 – 15 years
☐ More than 15 years

8. Current Occupational Status (please tick)
☐ Technical
☐ Professional
☐ Supervisory
☐ Managerial
☐ Other, Please specify, _____

(*continued*)

9. GrossMonthly Salary/Monthly Income (please tick)

- ☐ Less than Birr 1,500
- ☐ Birr 1,501 – 3,000
- ☐ Birr 3,001 – 4,500
- ☐ Birr 4,501 – 6,000
- ☐ Birr 6,001 – 7,500
- ☐ Birr 7,501 – 9,000
- ☐ Birr 9,001 – 10,500
- ☐ More than Birr 10,500

10. Please indicate a project that you are currently working on or have recently participated in

- ☐ Business Process Re-engineering (BPR) Project
- ☐ Information Technology (IT) related Project
- ☐ New Product/Service Development Project
- ☐ Other, Pleasespecify, _____

11. Positionin assigned projects (please tick)

- ☐ Project Manager/Process Owner
- ☐ Project Coordinator/Project Team Leader
- ☐ Project Expert/Officer
- ☐ Project Team Member
- ☐ Other, Please specify, _____

12. Please indicate (put a tick mark) the type of training/s you have taken as part of your assignment to a project work under question number 10.

- ☐ Problem Solving
- ☐ Communication
- ☐ Conflictre solution
- ☐ Goal setting and planning
- ☐ Inter personal and social skills
- ☐ Stress and time management
- ☐ Other, please specify_____
- ☐ Did not take any

13. Please indicate the average number of projects you have been assigned to with in the current organization so far.

- ☐ Lessthan 2
- ☐ 2-4
- ☐ 5-7
- ☐ More than 7

14. Please indicate the average number of team members (team size) you have worked with on a project work assignment so far

- ☐ Less than 5
- ☐ 5-10
- ☐ 11-15
- ☐ More than 15

15. Religion (please tick)

- ☐ Orthodox
- ☐ Muslim
- ☐ Protestant
- ☐ Catholic
- ☐ Other, please specify_____

16. Ethnicity (Please specify):_____

Appendix 2. PTS questionnaire

The objective of the following questions is to know YOUR perceptions, from your own viewpoint or personal stand, on the level of the relative priority (in the sense of importance) of the factors listed below to PTS using a five point Likert-type scale from "not important" to "most important". And at the same time, based on your real life experience, it is to evaluate YOUR assessment on the performance of such factors (in the sense of contribution) on project works that you are/were actually a member using a five point Likert-type scale from "very poor" to "excellent". Please go through the questions once before you start circling your choice using the two attribute response rating scales.

Priority				
Not Important	*Somewhat Important*	*Important*	*Very Important*	*Most Important*
1	*2*	*3*	*4*	*5*
Performance				
Very Poor	*Inadequate*	*Adequate*	*Good*	*Excellent*
1	*2*	*3*	*4*	*5*

No.	*Success Measures*	*Importance*					*Performance*				
1	Achievement Orientation – the drive and orientation of project team to accomplish and realize project objectives, achieve desired end results, and meet project schedule, quality, and cost	1	2	3	4	5	1	2	3	4	5
2	Empowerment – the provision and exercise of more freedom and discretion (authority and accountability) to project teams to do a more interesting, challenging, and rewarding project work	1	2	3	4	5	1	2	3	4	5
3	Competence – the ability of project team to set and pursue clear and sound project goals, plan project tasks, and excel in performing assigned project duties and responsibilities	1	2	3	4	5	1	2	3	4	5
4	Representation – the fairness and adequacy in the assignment of project team members based on abilities, skills, knowledge, and expertise; and participation of stakeholders based on their potential contributions towards the success of the project work	1	2	3	4	5	1	2	3	4	5
5	Participation-the involvement and productive engagement of project team members in contributing views and ideas towards project's goal setting, problem solving, and decision making process	1	2	3	4	5	1	2	3	4	5
6	Vision – the capacity of project team to foresee and focus on the big picture, properly define future directions, and choose strategic actions in the fulfillment of project objectives and goals.	1	2	3	4	5	1	2	3	4	5
7	Commitment – the dedication of project team to work with full energy and enthusiasm individually and collectively to achieve project objectives and goals	1	2	3	4	5	1	2	3	4	5
8	Transparency – the existence of proper communication in order to secure commitment and ensure trust on project objectives, plans (directions), priorities, resources available, project team roles and constraints, commitments and performance expectations clearly and adequately	1	2	3	4	5	1	2	3	4	5
9	Proactiveness – the ability of project team to anticipate and recognize potential project roadblocks, and identify the tools to respond and take corrective actions on timely basis	1	2	3	4	5	1	2	3	4	5
10	Cooperation – the prevalence of genuine intention to work together, readiness to collaborate and support each other in problem solving, decision making, and sharing work load and responsibility for the smooth functioning of the project work	1	2	3	4	5	1	2	3	4	5
11	Feedback – the prevalence of honest and adequate feedback on project progress, and demonstration of fair assessment and evaluation in both individual and overall project team performance	1	2	3	4	5	1	2	3	4	5
12	Flexibility – the ability of project team to recognize own strengths and weakness, readiness to accept constructive criticism and suggestions without losing face, adjust approaches or strategies to fit different people and project conditions	1	2	3	4	5	1	2	3	4	5
13	Communication – the existence of concern to maintain open, honest, transparent, and built-in procedures to access, share and exchange knowledge, ideas, issues, information and perspectives pertaining to the project work on regular basis	1	2	3	4	5	1	2	3	4	5
14	Coordination – the existence of proper organization and monitoring of project team's activities (goals and resources) to better meet schedule, quality, budget, and expectations	1	2	3	4	5	1	2	3	4	5
15	Openness – the openness of project team to emergent project ideas, new project information, ongoing change initiatives within the project system, and readiness for learning and development opportunities	1	2	3	4	5	1	2	3	4	5
16	Mutual Trust and Respect – The prevalence of honesty and trust on needs and expectations, and respect within project team so as to work, think, and act jointly	1	2	3	4	5	1	2	3	4	5

(*continued*)

17	Priority Setting – the existence of prioritization of project plans and activities (work structures, schedules, budgets, and deliverables) based on sound judgment and awareness of their potential implications to project outcomes.	1	2	3	4	5	1	2	3	4	5
18	Creativity/Innovation – The ability of the project team to conceive and introduce new and improved practices (ideas, methods, tools, and strategies) in order to deal with ambiguity and provide creative solutions to project problems	1	2	3	4	5	1	2	3	4	5
19	Cohesiveness – the prevalence of valuing unity within diversity (harnessing individual differences), existence of team identity and emotional attachment (belongingness), fair and productive competition, and concern and mutual support for others	1	2	3	4	5	1	2	3	4	5
20	Motivation – the encouragement of project team to unleash their creative potential and give their very best towards superior project results; and existence of fair recognition, compensation and reward schemes based on expertise and contribution to the project work	1	2	3	4	5	1	2	3	4	5
21	Decisiveness – the ability of project team to make well informed decisions based on the best and most available and appropriate sources of data and information in order to achieve project objectives and goals	1	2	3	4	5	1	2	3	4	5
22	Clarity of Purpose and Mutual Understanding – the existence of clear sense of purpose and shared understanding on project objectives, project structure, governing rules and procedures, authority and responsibility, work interfaces, communication channels, and so on within project teams	1	2	3	4	5	1	2	3	4	5
23	Conflict Resolution – the identification of sources of conflict, confrontations, disagreements within project team and resolution strategies to address them as and when they occur	1	2	3	4	5	1	2	3	4	5
24	Risk Assumption – the willingness and readiness of project team to take and assume calculated risk and learn from mistakes and weaknesses in furtherance of the project performance	1	2	3	4	5	1	2	3	4	5
25	Interpersonal Relations – the prevalence of smooth relationships, practice of listening to each other, seeking the views and ideas of others, respecting the needs, feelings, and capabilities of others, and exchanging constructive feedback to one another within project teams	1	2	3	4	5	1	2	3	4	5
26	Support – the existence of elevating vision, adequate psychological and material support in terms of required resources like human, financial, information, working facilities and hygiene, guidance, job security, training opportunities, etc.	1	2	3	4	5	1	2	3	4	5
27	Initiative – the ability of project team to initiate and remain on project track, seek and take on high levels of responsibility to deliver a top collective project performance.	1	2	3	4	5	1	2	3	4	5
28	Shared Responsibility and Mutual Accountability - the existence of shared responsibility and mutual accountability for actions and all project results/outcomes - no face saving and blame culture within project team	1	2	3	4	5	1	2	3	4	5
29	Networking – the maintenance of effective communication, contacts and relationships with important internal as well as external project partners or stakeholders.	1	2	3	4	5	1	2	3	4	5
30	Emotional Intelligence – the prevalence of self-awareness (ones feeling), self-management (ones emotions and impulses), and self-motivation (willingness to put in a great deal of effort); and ability to sense and handle the emotions of others within project team	1	2	3	4	5	1	2	3	4	5
31	Persistence – the determination of a project team to work hard, cope up with internal and external pressures; and sustain momentum in the face of setbacks and failures	1	2	3	4	5	1	2	3	4	5
32	Self/Collective Efficacy – the belief and confidence that a project team has individually and collectively in their abilities to mobilize the motivation, the talents, the resources and courses of action necessary to carry out the project work and succeed	1	2	3	4	5	1	2	3	4	5
33	Conflict Treatment – the prevalence of constructive and productive conflict within project team and concern to resolve differences straight away with others	1	2	3	4	5	1	2	3	4	5
34	Team-building – building an integrated and effective project team through the provision of training support, conducting team building sessions, holding project status and review meetings, experience sharing, coaching and mentoring, social events, discussion forum on major occurrences in the project work	1	2	3	4	5	1	2	3	4	5
35	Negotiation - the ability of project team to strike a deal with and secure support from top management, clients, sponsors, and others who have vested interest in the project work or outcomes	1	2	3	4	5	1	2	3	4	5

Appendix 3. Background information on sample organizations and population characteristics

Sub-sectors	Total staff	Total project staff working on BPR and IT projects	Capital (in millions, US$)	Annual turnover (in millions, US$)	BPR and IT projects budget (in millions, US$)
Banking	14,812	219	821.18	483.56	50.50
1. Commercial Bank of Ethiopia	8,033	56	474.18	309.32	24.28
2. Development Bank of Ethiopia	939	33	198.79	40.90	8.05
3. Construction and Business Bank	900	38	18.21	22.90	12.49
4. Awash International Bank S.C.	1,329	17	38.41	44.03	2.66
5. United Bank S.C.	1,963	24	34.35	29.04	1.15
6. Nib International Bank S.C.	1,202	27	43.40	32.89	1.30
7. Cooperative Bank of Oromia S.C.	446	24	13.84	4.48	0.57
Utility	29,548	635	3,023.49	1,725	183.59
1. Ethiopian Telecommunications Corp.	12,260	371	572.43	586.07	117.19
2. Ethiopian Electric Power Corporation	12,688	144	2,144.03	181.51	8.92
3. Ethiopian Air Lines	4,600	120	307.03	957.42	57.48
Total	44,360	854	3,844.67	2,208.56	234.09

Notes: The figures are based on company reports and information as at June 30, 2008; the exchange rate applied was Birr 9.6081/US$ as at June 30, 2008

Table AI.
Background information on sample organizations

Population characteristics

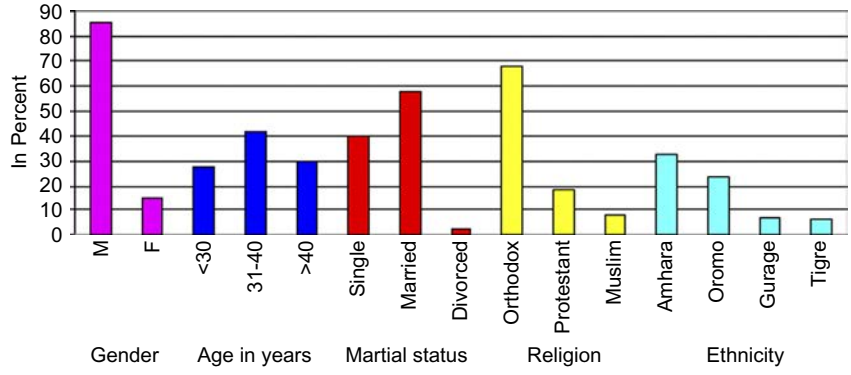

Figure A1.
Respondents' gender, age, marital status, religion, and ethnicity

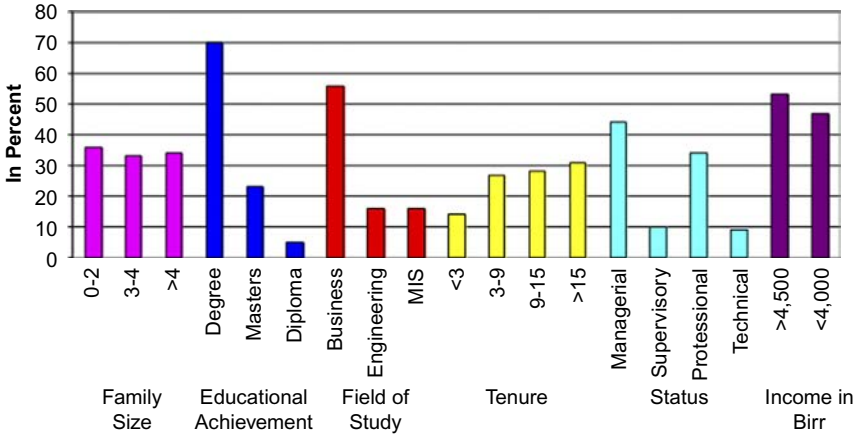

Figure A2.
Respondents' family size, education, tenure, status, and income

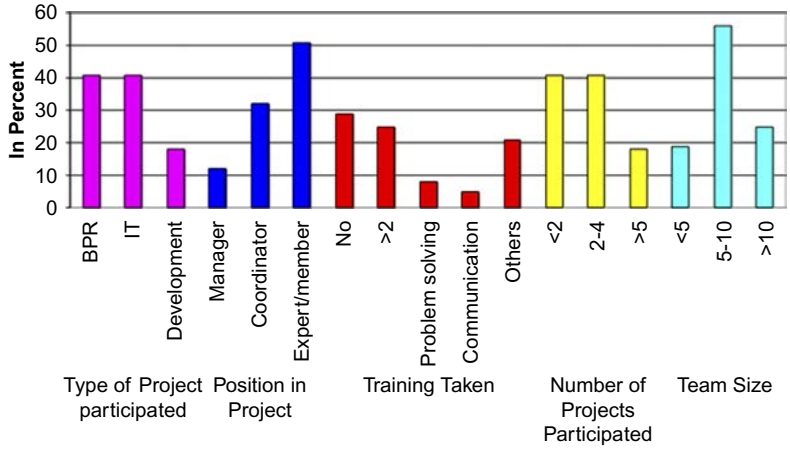

Figure A3.
Respondents' project participation, position, training, and team size

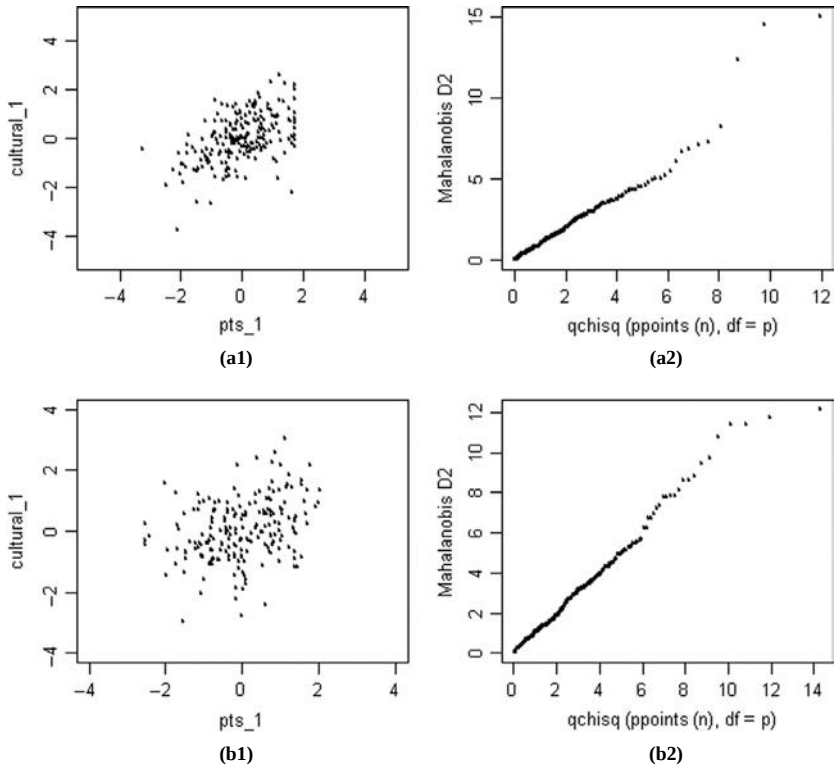

Figure A4.
(a1) PTS-cult (priority); (a2) QQ plot: PTS_cult (priority); (b1) PTS_cult (performance); (b2) QQ plot: PTS_cult (performance)

Appendix 4. Scatter and QQ plots: PTS with cultural values (priority and performance)

		Multivariate statistics and F approximations S = 3 M = 3 n = 92.5			
Statistic	Value	F-value	Num DF	Den DF	Pr > F
Wilks' λ	0.71504552	2.22	30	549.56	0.0003
Pillai's trace	0.29652956	2.07	30	567	0.0008
Hotelling-Lawley trace	0.38249490	2.37	30	419.41	$<$0.0001
Roy's greatest root	0.33696708	6.37	10	189	$<$0.0001

Table AII.
Priority

Note: F-statistic for Roy's greatest root is an upper bound

Appendix 5. Multivariate tests of significance: PTS with cultural values (n = 200)

Statistic	Value	Multivariate statistics and F approximations S = 3 M = 3 n = 92.5 F-value	Num DF	Den DF	Pr > F
Wilks' λ	0.75677102	1.82	30	549.56	0.0052
Pillai's trace	0.26543450	1.83	30	567	0.0048
Hotelling-Lawley trace	0.29290154	1.81	30	419.41	0.0061
Roy's greatest root	0.12872635	2.43	10	189	0.0095

Note: F-statistic for Roy's greatest root is an upper bound

Table AIII.
Performance

Appendix 6

Variates/variables	Canonical coefficient Pr	Canonical coefficient Per	Canonical correlation Pr	Canonical correlation Per	Canonical correlation squared Pr	Canonical correlation squared Per
Dependent variables						
Teamwork/tworkp	0.3463	0.7162	0.5020	0.3377	0.2520	0.1141
Teamlearn/tlearnp	0.8344	1.5671				
Teamlead/tleadp	−0.1754	−1.5631				
Independent variables						
Conformity	0.2799	0.0797	0.5020	0.3377	0.2520	0.1141
Tradition	0.0512	−0.7264				
Benevolence	0.2009	0.4332				
Universalism	0.3654	0.1869				
Self-direction	0.3072	0.2619				
Stimulation	−0.1800	−0.1854				
Achievement	0.0496	0.3493				
Power	0.0854	0.5369				
Security	0.1592	0.1684				
Hedonism	−0.0323	−0.0549				

Notes: Pr – priority; Per – performance

Table AIV.
Canonical weights: PTS with cultural values

Appendix 7

Variates/variables	Canonical loadings Pr	Canonical loadings Per	Canonical loadings squared Pr	Canonical loadings squared Per	Average loadings squared Pr	Average loadings squared Per
Correlations between the dependent variables and their canonical variates						
Teamwork/tworkp	0.9186	0.7220	0.8438	0.5213		
Teamlearn/tlearnp	0.9876	0.8113	0.9754	0.6582		
Teamlead/tleadp	0.8106	0.5045	0.6571	0.2545		
Dependent variate			2.4763	1.4340	0.8254	0.4780
Correlation between the independent variables and their canonical variates						
Conformity	0.7726	0.3869	0.5969	0.1497		
Tradition	0.6444	0.0265	0.4153	0.0007		
Benevolence	0.7644	0.4628	0.5843	0.2142		
Universalism	0.8295	0.5124	0.6881	0.2626		
Self-direction	0.6958	0.6251	0.4841	0.3908		
Stimulation	0.3579	0.3381	0.1281	0.1143		
Achievement	0.5616	0.6474	0.3154	0.4191		
Power	0.3449	0.5802	0.1190	0.3366		
Security	0.6363	0.4341	0.4049	0.1884		
Hedonism	0.4317	0.3578	0.1864	0.1280		
Independent variate			3.9223	2.2044	0.3922	0.2204

Table AV.
Canonical loadings: PTS with cultural values

Notes: Pr – priority; Per – performance

Appendix 8

Variates/loading variables	Canonical cross loadings Pr	Canonical cross loadings Per	Canonical cross loadings squared Pr	Canonical cross loadings squared Per	Average cross loadings squared Pr	Average cross loadings squared Per
Correlation between the dependent variables and independent canonical variates						
Teamwork/tworkp	0.4612	0.2438	0.2127	0.0594		
Teamlearn/tlearnp	0.4958	0.2740	0.2458	0.0751		
Teamlead/tleadp	0.4070	0.1704	0.1657	0 .0290		
Dependent variate			0.6242	0.1635	0.2081	0.0545
Correlation between the independent variables and dependent canonical variates						
Conformity	0.3879	0.1307	0.1505	0.0171		
Tradition	0.3235	0.0089	0.1047	0.0001		
Benevolence	0.3837	0.1563	0.1473	0.0244		
Universalism	0.4164	0.1730	0.1734	0.0299		
Self-direction	0.3493	0.2111	0.1220	0.0446		
Stimulation	0.1797	0.1142	0.0323	0.0130		
Achievement	0.2819	0.2186	0.0795	0.0478		
Power	0.1731	0.1959	0.0302	0.0384		
Security	0.3194	0.1466	0.1020	0.0215		
Hedonism	0.2167	0.1208	0.0470	0.0146		
Independent variate			0.9889	0.2514	0.0989	0.0251

Table AVI.
Canonical cross loadings: PTS with cultural values

Notes: Pr – priority; Per – performance