THE RELATIONSHIP BETWEEN CORPORATE CULTURE OF SOUTH AFRICAN CONSTRUCTION FIRMS AND PERFORMANCE

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ABSTRACT

The purpose of this paper is to investigate and ascertain the relationship that exists between the corporate culture and performance of South African construction firms. A comprehensive literature review that identifies the key corporate culture dimensions that are essential for business success was undertaken. A questionnaire containing questions relating to the aforementioned corporate culture dimensions was prepared and administered to senior managers of construction firms. The results of the survey were analyzed through the use of statistical tools. The results of the survey confirmed that a positive correlation exists between corporate culture and business performance. However, in the context of South African construction firms, the magnitude of the influence of corporate culture on business performance is inversely proportional to the size of the firms. The role and influence of the construction industry in the South African economy is pivotal. Not only is the industry responsible for the provision of much needed infrastructure, it also provides income to thousands of people under its employ. The paper offers recommendations on how corporate culture may be best developed to create high performance.

Keywords: corporate culture, business performance, construction firms, South Africa

INTRODUCTION

South Africa's real economic growth averaged 3.1% (1.1% in per capita terms) during 1995 – 2004. This represents a substantial improvement on the 0.8% average growth rate (-1.3% in per capita terms) experienced during 1985 – 1994 (Rodrik, 2006). According to Du Plessis and Smit (2007) the improved growth rate has gathered momentum: the average growth rate for the first five years after 1994 was 2.6%, and 3.6% in the following five years.

Despite the favorable economic conditions that have prevailed in the past decade, the South African construction industry's contribution to Gross Domestic Product (GDP) has dwindled. Dlungwana *et. al*. (2002) asserted that the South African construction industry's contribution to GDP has shrunk to approximately 3%, compared to 7% in the 70s. This is in stark contrast with construction industries of other developing nations such as India, which contributed approximately 8.5% to the total of India's GDP in the 2008 financial year (The Indo – Italian Chamber, 2008).

While a large part of the decrease can plausibly be attributed to investment decisions by the South African government, a significant part of the industry's disappointing performance may be directly related to poor performance levels that have become synonymous with the majority of South African construction firms. The Department of Public Works (DPW) (1999) articulates the following as being the major causes of poor performance associated with the majority of contractors in South Africa:

- poor capacity of contractors
- low productivity and poor quality workmanship
- low profit margins for contractors

The findings above complement and bear similar resemblance to Smallwood's (2000) conclusion that the causes of poor performance amongst contractors in South Africa, as perceived by clients, were inadequate or poor planning, poor management and low skill level amongst employees.

In comparison with South Africa, the Japanese construction industry is renowned as being one of the best in the world (Levy, 1990). In a study that sought to compare the performance of contractors from the United States (US), United Kingdom (UK) and Japan, Xiao *et al*. (2002) observed that Japanese contractors performed better than their US and UK counterparts. Japanese contractors achieved fewer defects on finished products, as well as longer defects liability periods, and were called fewer times after completion. Research conducted by Haley (1984) revealed that the sterling performance of Japanese construction firms is underpinned by a deep rooted corporate culture that prioritizes worker participation, superior quality and investment in research and development.

Given the positive influence that corporate culture has had on the success of construction firms elsewhere, this research report aims to ascertain and investigate the corporate culture of South African construction firms. This will not only enable South African construction firms to identify deficiencies in their practices, but will also contribute positively to the performance of the industry and thus contribute to the uplift of the society as a whole.

LITERATURE REVIEW

The literature review identifies mission, ethics, quality, health, safety and environment standards, sub-contractor relationships, research and development, innovation, management style, employee relations, customer orientation and benchmarking as the most influential components of corporate culture. The latter part of the literature focuses on exploring the relationship between corporate culture and performance. The authors have deliberately left out construction risk management as it was felt that the subject is bigger in scope and would require a much more focused research.

Mission Statements

David *et al*. (2003) define mission statements as enduring statements of purpose that distinguish one organization from other similar enterprises. For an organization, a mission statement is expected to respond unequivocally to the following questions: “why do we exist”; “what is our purpose”; “what are we trying to accomplish?” When these questions are properly answered, a mission statement captures an organization’s unique and enduring purpose (Bart, 1998). According to Germain and Cooper (1990), mission statements promote a sense of shared expectations amongst employees and communicate a public image of the firm to important stakeholders and groups in the company’s task environment.

Ethics

Associated with public image is ethics, which are a set of “moral principles” that govern the conduct of an individual or group (Allen, 1990). Bowen *et al*. (2007), citing Allen (1990), elaborates further and proclaims that morals are concerned “with goodness or badness of human character or behaviour,” or “with the distinction between right and wrong,” or “concerned with accepted rules and standards of human behaviour”.

A study conducted by Bowen *et al*. (2007) found that South African contractors possess a reputation for unethical conduct - collusion, bribery, negligence, fraud, dishonesty and unfair practices emerged as the most prevalent forms of unethical behaviour. Both Friedman (1970) and Freeman (1994) were scathing about the negative impact of unethical behavior such as bid shopping and bid rigging. Moylan (2005) found that both practices undermine the integrity of the system, and breaks the trust amongst the stakeholders in the execution of the work.

Positive correlations have been found to exist between ethical behavior and business performance. In his research, Verschoor (2006) demonstrated that a company’s ability to maintain an ethical corporate culture is key to the attraction, retention and productivity of employees. Webley and More (2003) found that a sample of companies with a code of ethics had performed better financially when compared to a similar sized group that did

not have a code. They also concluded that companies with a code of ethics generated significantly more economic added value (EVA) and market added than those without a code.

Quality

A close relationship between ethics and quality can be drawn. Good ethical conduct implies the provision of quality products that meet the end users' requirements. Research conducted by the Construction Industry Development Board (CIDB) (2007) amongst a pool of selected contractors and clients indicated that 18% of facilities handed over at practical completion had "some" defects while 6% of facilities had major defects or were totally defective. In the same vein, Ballim (1991) alluded to the deterioration of quality associated with concrete structures in South Africa, while Hindle (1990) lamented the deteriorating quality standards of new housing in the Western Cape.

Japanese contractors have benefited immensely from a strong quality culture, as it enables them to maintain and improve the reputation of the company, retain customers, attract new customers and increase the market share of their organizations (Rust *et al.*, 1994). South African firms can only gain by emulating these practices where applicable to local circumstances.

Health and Safety

In the same manner as quality, health and safety standards amongst South African construction firms have lowered significantly. Statistics provided by the Compensation Commissioner indicate that South African construction firms are struggling to achieve acceptable levels of health and safety. It is reported that in 1999, a total of 14,418 medical aid cases, 4,587 temporary total disablements, 315 permanent disablements and 137 fatalities were reported (Compensation Commissioner in South Africa, 2005). At the root of the problem is ignorance that arises mainly from the absence of a safety culture (Smallwood and Haupt, 2005).

Hodgson and Milford (2005), citing the findings of the Construction Industry Report (2004), highlighted the following issues regarding health and safety in the South African construction industry:

- there is very limited commitment to comply with basic requirements, let alone promote a culture of health and safety.
- small contractors can barely maintain tools and regard safety equipment as luxury items.
- even when protective clothing and equipment is provided, workers often avoid their use.

Accidents affect the bottom line or profitability of a project. Direct costs associated with an occupational injury or illness include: medical costs, premiums for workers compensation insurance, liability and property losses. Indirect costs include: the cost of lost time for injured workers, loss of productivity, loss of supervisory time, decrease in labor morale and cost of damage to equipment (Smith and Roth, 1991). Indirect costs range from product and material, to legal costs (Crocker, 1995).

Teamwork

Construction is a co-operative effort of several participants, each with their own perspectives and interests at hand, brought together to complete a project plan that typically changes several times while being constructed: while trying to minimize the effects of the weather/environment, occupation hazards, schedule delays, building defects, etc. (Hoonakker, 2002). The nature of the industry places an obligation on project participants to work in unison for the good of the project. Therefore it is essential for contractors to cultivate and develop relations with employees, customers and subcontractors.

Employer – Employee Relationships

Anthony *et al.*, (1992) found that construction firms can cement relations with employees by pursuing a flatter management structure that grants more autonomy to segments of a complex operation. This proposed management style should be accompanied by a “no blame” culture to encourage subordinates to exercise fully their independence and

truthful reporting. Academics and practitioners agree that employer – employee relations are critical. Ferris *et al.,* (1990) concluded that a construction firm with a higher level of strategic planning, including human resource planning, achieves higher organizational performance, including higher productivity, greater cost effectiveness, and greater overall efficiency.

Relationships with Subcontractors

Equally important is the requirement for construction firms to maintain good relations with external parties such as subcontractors and clients. Xiao and Proverbs (2002) found that the superior performance of Japanese contractors may be attributed to their closer working relationships with subcontractors. This is a direct result of the corporate culture in Japan being based on co-operation and the maintenance of long term relationships (Haley, 1984). In this instance subcontractors are treated fairly and are provided with opportunities to grow. In return, subcontractors strive everyday to deliver the agreed work, complete and exactly to the agreed standard (Bennett, 1991).

Client Feedback

A survey conducted by the CIDB amongst clients in 1994 rated the quality of work and service of contractors as average to good. Although not a representation of the whole industry, the survey demonstrated that a high level of dissatisfaction with construction firms exists amongst public and private sector clients. According to Butalla (2005), it is possible for contractors to achieve customer satisfaction through relationship building, expectation setting and better communication. Kujala (2005) maintains that organizations which are more efficient in providing value for customers, leading to higher customer satisfaction, are more likely to survive in a competitive situation. Higher customer satisfaction has significant implications for financial performance, since there exists a positive correlation between lower customer satisfaction and the price a customer is willing to pay for products and services. Drucker (1954) alluded to the same point by stating that customer satisfaction and trust will bring repeat purchases to the firm and

hence improve the firms' organizational performance.

Research and Development

Research and development and innovation are closely related. It is through investment in research and development initiatives that innovative processes and products are developed. When compared to firms in other economic sectors, South African construction firms lag behind in innovation (Van Wyk, 2007). These low levels of innovation are attributed to the manner in which construction projects are managed by contractors. Bakens (1988) asserts that construction firms are not strategic in their management and, in many instances, the horizon of contractors does not go beyond the moment of project completion. Sydow *et al*. (2004) echo the same sentiment by suggesting that focusing entirely on the project leaves no room for external factors, which means that the project team risks becoming a knowledge silo, where the knowledge developed is not available to other members outside the team. Keegan and Turner (2002) also concluded that the short term horizon of contractors leaves no room for reflection on and documenting of experiences and lessons learned. Blayse and Manley (2004) also alluded to the fact that construction firms often do not 'codify' learnings and hence such knowledge is lost to future projects. In order to alleviate this challenge, Drejer and Vinding (2006) recommended two options, namely:

- the use of post project reviews and systematic evaluation to gather a diffusion of experiences may aid in combining short–term task performance strategies with long term learning and knowledge accumulation.
- an increase in the ability to assimilate and utilize knowledge from other types of partners; an ability that may be strengthened through the application of partnering and knowledge-anchoring mechanisms.

Benchmarking

Benchmarking is an essential corporate culture dimension that can be adopted and utilized to improve contractor's efficiency (Luu, 2008). Benchmarking can be defined as

a process of making structured comparisons of the performance of firms or other bodies, either with their criteria or with externally referenced criteria.

In a construction firm, Sherif (1996) argued that benchmarking manifests itself in the following three ways;

- *internal benchmarking*: where a construction organization aims towards identifying improvement areas within its structure through comparing its business operations with those of others who do it better, thus setting new targets to meet.
- *project benchmarking*: where a construction organization assesses the performance of projects in which it is involved with an aim to meet customer requirements, measure productivity rates, and validate and maintain its estimating database.
- *external benchmarking*: where the industry as a whole attempts increase its productivity through making tools and techniques, developed and successfully used by other industries, applicable to construction.

In the case of South African construction firms, a benchmarking program would strengthen competition amongst dominant contractors and would also provide a healthy yardstick for smaller contractors. Additionally, in the ever changing construction environment, benchmarking could be a powerful tool in investigating and managing change on construction projects (Garnett and Pickrell, 1998).

Kotter and Hesket (1992) found that a positive relationship exists between corporate culture and business performance. This conclusion was first buttressed on the premise that a strong organizational culture supports goal alignment. The idea is that because all employees share the basic assumptions, they can agree on not just what goals to pursue, but also on the means by which they should be achieved. As a result, employee initiative, energy and enthusiasm are all channeled in the same direction. Second, a strong culture leads to high levels of employee motivation. A high level of motivation among employees translates into high organizational performance. Finally, a strong culture is better able to learn from its past. The idea is that strong cultures characteristically possess

agreed norms of behavior, integrated rituals, ceremonies and well known stories. The suggestion here is that an organization which is able to reflect on its development, and which is able to draw on a stock of knowledge encoded in stories and rules of thumb, is likely to perform better than competitors unable to learn from their past successes and failures.

RESEARCH METHODOLOGY

The register of contractors administered by the Construction Industry Development Board (CIDB) was adopted as the target population for this study. The CIDB was established to provide leadership to stakeholders and to stimulate sustainable growth, reform and improvement of the construction sector for effective delivery and the industry's enhanced role in the country's economy. The register provides a comprehensive list of all contractors that are eligible to undertake government projects in South Africa. The register is subdivided into various classes of works such as building, civil engineering and so on. The contractors are graded on an ascending scale of 1 – 9 with the higher number indicating a capacity to perform larger projects. Financial and works capability are the main factors that are taken into consideration when determining the grade of each contractor as based on a history of past projects. According to the CIDB, there were 65,617 contractors that were registered as of Tuesday, September 29th, 2008. This figure is adopted as the target population for this study.

Contractors registered with the CIDB in the Gauteng region with grades ranging from 7 to 9 were used as the sampling frame for this study. Contractors with grades ranging from 1 to 6 were not considered for this study. These are contractors that are relatively small in size and are only permitted to execute works up to the value of 1,000,000 USD. The ratio of management to employees in such firms is very small, as the use of casual employees is the norm. Therefore, due to the severe lack or absence of entrenched relations between management and temporary employees, it is not possible to effectively measure the corporate culture that prevails in such firms.

As of Tuesday, September 29th, 2008, there were 79 construction firms in the Gauteng region in the General Building (GB) category with a grade ranging from 7 to 9 that were registered with the CIDB. The composition of the sampling frame is as follows:

- Grade 7: 47 contractors: Allowed to handle projects costing above 1 million USD
- Grade 8: 14 contractors: Allowed to handle projects costing above 3 million USD
- Grade 9: 18 contractors: Allowed to handle projects costing above 10 million

USD

The minimum sample size to be drawn from the sampling frame above can be interpolated from the formula below as advocated by Saunders *et al.* (1997):

$MSS_{req} = MSS_{li} + [(TP_g - TP_l) / (TP_u - TP_l) \times (MSS_{ul} - MSS_{li})]$

Where:

MSS_{req} = required minimum sample size for the given target population

MSS_{li} = Minimum sample size corresponding to the lower target population

MSS_{ul} = Minimum sample size corresponding to the upper target population

Through the application of the formula above, 57 construction firms can be used as the sample for this study. The sample is further divided into three strata, where the first stratum represents firms with a grade of 7, while the second and third strata represent firms with a grade of 8 and 9, respectively. This is depicted Table 1 below:

Table 1: Division of construction firm sample

Contractor Grading	**Number of contractors per grade**	**Sampling Frame**	**Sample Required**	**Sample Per Stratum**
Grade 7	47	79	57	34
Grade 8	14			10
Grade 9	18			13

A questionnaire consisting mainly of three distinct parts was administered to individuals occupying senior management positions in construction firms. The first section of the questionnaire sought to acquire the relevant information about the respondent and the organization that he/she works for. The second section contained eleven corporate culture dimensions that are used to diagnose and measure the dominant culture. A five point

Likert-type scale is used for this purpose. The third section contains the performance assessment criteria, and adopts financial and non financial measures to achieve this goal.

DISCUSSION OF RESULTS

The mean score method is used to evaluate the relative importance of the various corporate culture dimensions amongst the three contractor categories. Taking into account the objectives of the study, the Kruskall-Wallis Test is computed to ascertain the difference/similarity in appreciation of the various corporate culture dimensions amongst the different contractor categories. Lastly, the Spearman's Rank Correlation Coefficient assesses the relationship between corporate culture and performance, and in essence serves the purpose of proving/disproving the hypothesis.

The results provided by the Kruskall-Wallis test indicate that the three contractor populations were largely similar in their level or degree of appreciation of the various corporate culture dimensions identified in the study as critical to the success of construction firms. The table below (Table 2) presents the results of the Kruskall-Wallis test. In all instances the W statistic proved to be less than the 5.99147 value required to reject the null hypothesis that the three populations are identical.

Table 2: Results of the Kruskall-Wallis test

Corporate Culture Dimension	W Statistic
1. Mission, Values and Culture	-17.22
2. Ethics	-24.02
3. Quality	-20.76
4. Health, Safety & Environment	-17.74
5. Subcontractor	-19.01
6. Research & Development	-8.23
7. Innovation	-18.67
8.Management Style	-10.53
9.Employee Relations	-17.61
10.Customer Orientation	-10.98
11.Benchmarking	-14.95
12.Risk Management	-12.53
Performance Measurement	-20.09

Respondents from the three contractor categories were largely similar in the degree of their appreciation of the various corporate culture dimensions identified in the study as critical to the success of construction firms. Table 3 depicts the mean value, the rank and hence the relative importance of each corporate culture dimension in the three contractor categories.

Note: 1 = lowest rank
10 = highest rank

Table 3: Relative importance of corporate culture dimensions

Corporate Culture Dimension	Grade 7		Grade 8		Grade 9	
	Mean	**Rank**	**Mean**	**Rank**	**Mean**	**Rank**
1. Research & Development	3.00	1	3.28	3	3.29	1
2. Innovation	3.62	2	3.20	1	3.96	3
3. Mission, Values & Culture	3.81	3	4.04	7	4.29	5
4. Benchmarking	3.82	4	3.72	3	3.71	2
5. Customer Orientation	3.95	5	3.90	5	4.51	8
6. Management Style	4.03	6	3.76	4	4.22	4
7. Employee Relations	4.08	7	4.16	8	4.47	7
8. Health, Safety & Environment	4.08	7	4.32	12	4.67	10
9. Risk Management	4.12	9	3.94	6	4.40	6
10. Subcontractor Relationships	4.20	10	4.28	10	4.69	11
11. Quality	4.29	11	4.28	10	4.56	9
12. Ethics	4.35	12	4.22	9	4.69	11

Research and Development, Innovation, Management Style and Benchmarking were not considered as essential and were ranked lowly across the three contractor categories. Subcontractor Relationships, Quality and Ethics were identified as the most important corporate culture dimensions across the three contractor categories. The level of importance attached to Health, Safety and Environment, Customer Orientation and Mission, Values and Culture differed significantly across the three contractor populations.

The Spearman's Rank Correlation Coefficient was computed to ascertain the relationship that exists between the various corporate culture dimensions and business performance. Table 4 presents the results obtained from this exercise.

Contractors in the Grade 7 category of works held that all the corporate culture dimensions identified in the study have a positive impact on business performance. Grade 8 contractors also maintained the same view, but discounted Research and Development and Innovation as key to the success of their organizations.

Grade 9 contractors differed significantly with their counterparts. Innovation, Mission, Values and Culture, Management Style, Quality and Ethics were identified as the only ingredients critical for business success. The remaining corporate culture dimensions identified in the study were not regarded as fundamental to the success of the organization.

Table 4: Spearman's rank correlation coefficient

	Grade 7	Grade 8	Grade 9
	rs	rs	rs
1. Mission, Values and Culture	0.36	0.06	0.27
2. Ethics	0.65	0.31	0.14
3. Quality	0.53	0.48	0.09
4. Health, Safety & Environment	0.53	0.36	-0.09
5. Sub - Contractor & Supplier Relationships	0.67	0.42	-0.14
6. Research & Development	0.25	-0.78	-0.07
7. Innovation	0.31	-0.21	0.19
8.Management Style	0.71	0.47	0.05
9.Employee Relations	0.56	0.42	-0.39
10.Customer Orientation	0.67	0.53	-0.59
11.Benchmarking	0.28	0.05	-0.53
12.Risk Management	0.50	0.17	-0.60

CONCLUSIONS AND RECOMMENDATIONS

The findings of the literature review are congruent with the results of the survey. The lack of research and development, innovation and benchmarking were highlighted as a major drawback for South African construction firms. These aforementioned corporate culture dimensions achieved the lowest ratings in the survey.

There is a definite link that exists between corporate culture and business performance. The magnitude of the impact of corporate culture on the business performance of South African construction firms differs relative to the size of the firm. Amongst the small and medium sized construction firms, the influence of corporate culture is much more profound and pronounced than when compared to big construction firms.

South African construction companies are not exempt from the effects of globalization. Local firms need to take advantage of international best practices which will give them a competitive advantage and enhance the overall performance of the industry. There is need of a more market-oriented corporate culture to ensure that productivity and competitiveness are key elements in business decisions. Since external market conditions guide the actions of the firms, it is imperative that companies promote corporate cultures that entail both internal focus as well as integration.

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