

**Journal of Construction Project management
and Innovation**

Volume 6 Number 2 December, 2016

ISSN 2223-7852



JCPMI
ISSN 2223-7852

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**THE INFLUENCE OF MENTORS' GENDER ON THE PSYCHOSOCIAL AND
CAREER MENTORING OF WOMEN IN THE SOUTH AFRICAN
CONSTRUCTION INDUSTRY**

N.R.A. Yokwana¹, R. Ndiokubwayo² and A. O. Windapo³

¹Department of Construction Management and Quantity Surveying, Cape Peninsula University of Technology, Cape Town, South Africa, ntombekhaya93@yahoo.com, Cell 073 951 3960

²Department of Construction Management and Quantity Surveying, Cape Peninsula University of Technology, Cape Town, South Africa, ndiokubwayor@cput.ac.za, Tel 021 959 6845

³Department of Construction Economics and Management, University of Cape Town, South Africa Senior Lecturer, Abimbola.Windapo@uct.ac.za, Tel 021 650 3443

ABSTRACT

This paper examines the influence of gender on the psychosocial and career mentoring of women in the South African construction industry, assessing whether there are statistical significant differences in the mentorship provided, based on gender. A cross-sectional survey approach was adopted in the study; and a purposive sampling method was used to select the female mentees and mentors working in the construction industry. The data collected from this cohort of respondents – who are based in the nine provinces of South Africa – were analysed using descriptive and inferential statistics. The findings suggest that gender plays no role in the successful mentorship of women, as there is no significant difference between the mentorship functions provided by either female or male mentors. Female mentees and mentors were selected independently to participate in the study. However, participants who were in matching mentoring relationships would have brought about improved results. The study provides new knowledge that there is no difference in the mentoring capacity based on gender in the South African construction industry, and that male and female mentors can produce the same level of success. There is no significant difference in the mentoring functions provided by male and female mentors to female mentees. This findings suggest that even though female mentees may be uncomfortable or feel disadvantaged in cross-gender mentorship relationships, these relationships provide the same mentoring benefits to females as those with the same gender. It is, therefore, recommended that female mentees enter cross-gender relationships with open minds. The results of this study are limited by the smallness of the sample size. Therefore, further studies would be required to further validate these results.

Female mentees and mentors who are in matching mentoring relationships should also be invited to participate in future studies.

Keywords: Construction Industry, Gender, Mentees, Mentors, Mentorship, South Africa, Women

1 INTRODUCTION

While previous studies have confirmed a successful mentorship of women is influenced by the gender of their mentors (Blake-Beard, 2001:336; Hansman, 1998:66; Hansman, 2002:40); this kind of patriarch relationship between a woman mentee and her mentor has not yet been widely explored in South African construction industry context.

The patriarch concept is defined as the father's role to be the ruler of the family and tribe and this was established during the Biblical times (Oxford Dictionary, 1969:980). The Patriarchy nature is still one of the strongest ideologies in cultures world-wide (Visagie, 1999:7). In fact, the father's role of leading and protecting the family was extended to other spheres of society, and further dominating all other forms of social associations (Coetzee, 2001:300). Patriarchy is deeply rooted on both Eurocentric and Afrocentric cultures in South Africa (Van der Walt, 1994:160). The Commission on Gender Equality (1998:1) refers "patriarchy as the common denominator of the South African nation." The patriarchy system has made men to dominate over women in areas such as economic systems, eras, regions and class (Boonzaaier & Sharp, 1988:154). Nandal (2011:119) adds that women are globally under-represented at all levels of property rights and economic decision making. Fuller, Fonderville-Gaoui and Haagdorens (2010:3) and Statistics South Africa (2009:11) reveal that even in senior management women are under-represented even though they make up nearly half of the workforce. Felden, Davidson, Gale and Davey (2000:115) found that the distribution of women in the construction industry is highly skewed, with almost two thirds working in secretarial or clerical positions in United Kingdom. Felden *et al.* (2000:115) revealed that the contribution of females in the workplace is not as competent as that of males because their skills are not used in areas where they could make an important difference to the production levels of the industry.

Tsukudu (1996) cited in Mathur-Helm (2005:61) indicates that white men still have privileges of being top management positions in South African organisation; they make major

decisions and will continue to maintain their privileged positions by barring opportunities to women and black people. Catalyst (2011:online) revealed that women constitute 15.8% of directors; 21.6% of executive managers; 5.3% of chairpersons and 4.4% of CEOs and Managing Directors in senior management positions of government in South Africa. This shows that women are still under-represented at senior management level in the work place, and that the advancement of women into managerial positions is happening slowly, even though programmes such as mentorship programmes are established in some organisations.

In South Africa, gender-related human-resource management policies and legislation were established in the beginning of the democratic era, in 1994 (Ozumba & Ozumba, 2012:30). In the human-resource management policies and legislation, mentorship programmes were encouraged in the workplace, as a method of advancing women (Ozumba & Ozumba, 2012:30; Co, Groenewald, Mitchell, Nayager, van Zyl Visser, Train & Emanuel, 2006:113, 199-201; Staessel, 2006:5); since they experienced oppression under apartheid (Nelson, 1981:online). Hansman (1998:66) complains that it is difficult for women to be involved in mentorship programmes; and even if they are, most of them are provided with less mentorship functions. Scholars, such as Stoessel (2006:5) and Washington (2007:6) view mentorship as a tool that can be used to advance women in their professional careers. Hansman (1998:66) and Verwey (2007:3090) posit that women receive less mentoring functions in non-traditional industries, such as construction, because there are few female role model mentors; while Hatipkarasulu and Roff (2011:online) established that women progress more slowly than their male counterparts in male-dominated industries, such as the construction industry.

Hansman (1998:66) and Blake-Beard (2001:336) add that people are uncomfortable in cross-gender mentorship relationships, because of sexual harassment concerns, sexual tension, gossip and sexual innuendos from co-workers. Kalbfleisch (2000, cited in Hansman, 2002:41) opines that women and men both prefer, and are more comfortable, being mentored by those of the same gender. However, the construction industry is a male-dominated industry; consequently, it is evident that female mentees are mostly mentored by male mentors. In addition, Chandler (1996:93) and Hansman (2002:40) argue that both female and male mentors are not interested in mentoring women, because people believe that women are not serious in the workplace because of possible family-work conflict situations. Therefore, the problem can be stated as follows: The limited progress of females in the construction industry is affected by the gender of their mentors.

This study, therefore, examines the influence of gender on psychosocial and career-mentoring of women in the South African construction industry, and whether the gender of the mentors leads to differences in the mentorship functions provided. The study hypothesises that: there is no statistically significant difference between (1) the mentor's gender, and level of psychosocial mentorship functions (role modelling, acceptance and confirmation, counselling, and friendship); and (2) career mentorship functions (exposure, sponsoring, coaching, protection, and challenging tasks) provided to female mentees.

2 MENTORSHIP PROGRAMMES

Mentoring relationships involve a mentor, who has more experience, and a mentee who has less experience and knowledge (Gordon, 1999:3; Meyer, Naudè, Shangase, Van Niekerk, 2009:160). Mentoring relationships are based on encouragement, constructive comments, mutual trust, respect, and the willingness to share and learn (Meyer *et al.*, 2009:161 and ARMA UK, 2011: online). Furthermore, the mentor assists the mentee to grow in the organisation and life (Meyer *et al.*, 2009:161; ARMA UK, 2011: online).

There are two types of mentoring relationships, namely, formal mentoring and informal mentoring (Wanberg, Kammeyer-Mueller & Marchese, 2006:410). In formal mentoring, relationships are established by the organisations by pairing together a mentee and a mentor. Such relationships usually last for a short period; and the mentees are not committed to their mentors; but they rather commit themselves to the programme (Philip-Jones, 1983:38). In informal mentoring relationships, the relationship develops naturally through unstructured social interactions. It is more than a career-related issue; and it is often deep – in the personal sharing of interests, needs and values (Wanberg *et al.*, 2006:409). Furthermore, the informal mentoring develops because of shared interests, admiration, or job demands that require the skills of two or more persons (Wanberg *et al.*, 2006:410).

The informal mentoring relationship is considered to be more effective than the formal mentoring relationship (Wanberg *et al.*, 2006:410; McDowall-Long, 2004:523). According to Steinmann (2006:4), the benefits of a mentorship include an enhanced promotion rate, accelerated employability, and career mobility, greater professional competence, better approval within, and alliance to the organisation, as well as the possible earning of higher salaries. It has been reported that people who are mentored have better career outcomes, as indicated by both objectives measures, such as compensation and promotions; and subjective

measures, such as career satisfaction, expectation of advancement, job satisfaction, intention to stay, and career commitment – than those who are not mentored (Ragins, Cotton & Miller, 2000:1183; Allen, Eby, Poteet, Lentz & Lima, 2004:130).

Moreover, mentoring is a relationship that provides people with the opportunity to share their professional and personal skills and experiences, and to grow and develop in the process (Gordon, 1999:3). The goal of mentoring is to improve the mentee's psychosocial and career development (Agumba & Fester, 2010:1961; Kram, 1985 cited in Ragins & Cotton 1999:529). There are two types of mentoring functions, namely, the psychosocial-mentoring function and the career-mentoring function (Kram, 1985:22). Allen et al. (2004:130) note that the career function is related to objective measures; while the psychosocial function is related to subjective measures.

The following are the mentorship functions:

2.1 The Psychosocial-Mentoring Function

The psychosocial-mentoring function is a process that encompasses the interpersonal aspects of mentoring (Kram, 1985:23). The mentee's sense of self-competence and self-efficacy are developed (Scandura & Hamilton, 2002:295). The following are the psychosocial-mentoring functions offered to mentees: role modelling, acceptance and confirmation, counselling, and friendship.

2.1.1 Role-modelling

The mentee studies the behaviour of the mentor in given situations, noting the outcomes of those behaviours, and applying this knowledge in shaping personal behaviour in a similar context, in the expectation of similar results, and for the building of their professional identities (Singh, Vinnicombe & James, 2006:67; Gibson, 2004:145).

2.1.2 Acceptance-and-confirmation

Acceptance and confirmation provide fundamental trust that encourages the mentee to take risks and to venture into unfamiliar ways of connecting with the workplace (Kram, 1985:35). The mentor counsels the mentee; and this helps the mentee to receive a positive sense of self in the workplace (Kram, 1985:36). The mentor's acceptance-and-confirmation allows the mentee to experience unconditional positive consideration, and to be comfortable enough to express any disagreement with their mentors (Kram, 1985:35).

Ragins and Cotton (1999:539); and Vanderbilt (2010:49-51) examined the mentorship functions in the social work, engineering and journalism professions; and their studies showed that acceptance-and-confirmation constitute the most influential functions.

2.1.3 Counselling

The mentor and mentee discuss openly any anxieties, fears and ambivalence, which could cause the mentee to be unproductive at work (Kram, 1985:36). The counselling process involves identifying a problem, analyzing it, establishing a solution, and committing to it (Klasen & Clutterbuck, 2002:13). Counselling allows the mentee to explore personal concerns that could hinder one in the organisation (Kram, 1985:36). Counselling helps the mentee to be able to deal with personal concerns more effectively (Kram, 1985:36).

2.1.4 Friendship

The mentee and mentor share personal experiences, eat lunch together, and find thereby a friend with whom they can escape from the pressures of work (Kram, 1985:38). The mentee learns increasingly valuable interpersonal skills by observing the mentor, and increased network associations (de Janasz, 2006:131). Mutual liking and understanding are developed during the social interaction of the mentee and the mentor in the functional friendship (Kram, 1985:36). Furthermore, friendship provides satisfaction and enjoyable informal exchanges about work and external work experiences (Kram, 1985:38). Through this friendship, the mentee gains confidence and self-awareness (de Janasz, 2006:131).

2.2 The Career-Mentoring Function

The purpose of the career-mentoring function is for the mentor to provide support that would grow the mentee in the organisation (Kram, 1985:22). The mentor teaches the mentee the organisation's objectives, norms, and values, as well as the mentee's duties and responsibilities (Kram, 1985:24). The following are the career-mentoring functions offered to mentees: exposure, sponsoring, coaching, protection, and challenging tasks (Kram, 1985:22, Ragin & Cotton, 1999:547).

2.2.1 Exposure

The mentor provides the mentee with networking opportunities (Kram, 1985:25), which help the mentee to be in contact; and also to interact with the key players in the organisation

(Scandura & Hamilton, 2002:295). Key players could influence the career of the mentee positively (Vanderbilt, 2010:12).

2.2.2 Sponsoring

Scandura and Hamilton (2002:295) explain that sponsorship is when the mentor provides the mentee with recommendations for desirable lateral moves, and creates opportunities for progression in the organisation. Kram (1985:25) revealed that these opportunities frequently happen during formal committee meetings or informal discussions with colleagues. It is not only the recommendations from the mentor that cause the mentee to receive promotion; but it is also the knowledge empowered by the mentor that creates opportunities for movement and progression (Kram, 1985:25).

2.2.3 Coaching

MacLennan (1995:4) and Hamilton (2003:62) revealed that coaching needed is to unlock the mentee's natural abilities, to perform, to learn, and to achieve, as well as to increase awareness of those factors, which determine performance, to increase their sense of responsibility and ownership of their performance, to self-coach, and to recognize, and also to surmount any barriers to achievement. The mentor observes and records the behaviour of the mentee, gives feedback, reflects by asking questions of the mentee, encourages him/her to improve, listens and analyses behaviour, as it relates to professional skill and knowledge (National Association of Secondary School Principals, 2007:online).

2.2.4 Protection

The mentor shields a talented mentee from stumbling blocks, difficult relationships and threats to the mentee's lateral progress in the organisation (Steinmann, 2006:54; Kram 1985:26). Mentors usually have a successful track record in the organisation; they are more familiar with organisational realities, such as politics, and the unique culture, or way of doing things in the organisation (Steinmann, 2006:54). Mentees lack these characteristic skills, such as experience and work politics (Dreher and Dougherty, 1997:117), which the mentor can provide to the mentee.

2.2.5 Challenging tasks

Mentees receive challenging tasks from the mentor (Scandura & Hamilton, 2002:295); these enable the mentees to further expand their skills through programmes that are organised by

the organisation (Vanderbilt, 2010:12). The challenging tasks, which the mentor provides, allow the mentee to improve particular competencies, and to experience a sense of accomplishment (Vanderbilt, 2010:12).

3 OVERVIEW OF THE INFLUENCE OF MENTORS' GENDER ON THE SUCCESSFUL MENTORSHIP OF WOMEN

3.1 Gender versus type of mentoring provided

Mullen (1998:319) studied the identification of mentors who had successfully provided vocational and psychosocial mentoring functions. The study revealed that the gender of the mentors and that of the mentees does not determine the mentoring functions provided to mentees (Mullen, 1998:328). The work of Allen and Eby (2004:135) contradicts that of Mullen, revealing that male mentors provide more psychosocial mentoring to female mentees than to their male mentee counterparts. Allen and Eby (2004:135) report that male mentors usually provide more career mentoring; while female mentors usually provide a better psychosocial mentoring function. Female mentors provide more emotional support and counselling than male mentors (Allen & Eby, 2004:135). Ragins and McFarlin (1990:333,334) state that in same-gender mentoring relationships, role modelling is better provided to female mentees than it is to male mentees.

3.2 Gender versus mentoring opportunities

According to Stoessel (1981), mentoring can be used as a tool to advance women in their career in the workplace. However, Hansman (1998) and Ragin and Cotton (1998) found that mentoring relationships are often not as frequently available to women, as they are to men such that female mentees are not usually chosen by male or female mentors. This stems from the rationale that women are perceived as not being serious enough about their careers (Chandler, 1996). Hansman (1998) argues that women who have too many family responsibilities – that can so often result in delaying or interrupting their careers – face problems, participating in mentoring relationships. In addition, sexual harassment concerns have also been adduced as reasons why mentors decide not to choose mentees of the opposite sex Hansman (1998).

3.3 Mentorship relationships

Traditionally, male mentors have more centralised and critical positions than do female mentors. These give them access to valuable information, job opportunities, pending projects and managerial decisions – often shared through the ‘old-boy network’ (Noe, 1988b:71; Steinmann, 2006:92). As a result, male mentors have greater power; and this helps them to set realistic career goals, to provide greater visibility to mentees, and to have access to valuable resources (Woodlands Group, 1980 cited in Noe, 1988b:67). Blake-Beard (2001:336) argues that in cross-gender mentoring relationships, there are challenges of sexual tension, gossip and sexual innuendos by co-workers regarding the mentoring relationship between the male mentors and their female mentees. Steinmann (2006:92) recommends that in cross-gender or cross-race mentorship, mentors consider specific issues that impact on the relationship.

Ragins and McFarlin (1990:333,334) stated that in same-gender mentoring relationships, female mentees do not always experience detrimental sexual issues. Instead, they have a close interactive relationship (Singh *et al.*, 2006:67). Stone (2007:172) adds that female mentors have a great influence on their mentees, because their behaviour, style and attributes are so often imitated by them.

Hansman (2002:40) argues that even if female mentees are involved in mentoring relationships with women mentors, there is no guarantee that their mentorship would necessarily be successful. Ervin (1995, cited in Hansman, 2002:40) discovered that female mentees complain when female mentors handle situations, just as male mentors do. Kalbfleisch (2000, cited in Hansman, 2002:41) opines that women have much less power and influence than their male counterparts in the workplace. Female mentors are perceived as having less ability to boost the career of the mentee – thereby enabling it to succeed (Hale, 1995). This results in female mentees having no desire to be mentored by female mentors (Hansman, 2002:41).

Allen and Eby (2004:135) state that the gender relationship between the mentees and mentors influences the type of mentoring received. Klasen and Clutterbuck (2002:118) stated that each and every mentorship relationship is unique. The standard of learning and development depends on the quality of the mentorship relationship (Klasen & Clutterbuck, 2002:118). The quality of the mentorship relationship depends on the trust and openness of the relationship (Klasen & Clutterbuck, 2002:118).

It emerged from the literature review that there are two types of mentoring functions – psychosocial mentoring and career-mentoring. It was revealed that the psychosocial

mentoring functions in use are role-modelling, acceptance and confirmation, counselling and friendship; while the career-mentoring functions offered are: exposure, sponsoring, coaching, protection and challenging tasks. In addition, it was revealed that mentorship programmes provide positive outcomes; and they empower women. It was also found that female mentees in the South African construction industry have been provided with fewer mentorship functions – due to insufficient mentorship programmes for women being available. Furthermore, there are conflicting findings about the influence of the mentorship functions provided by male and female mentors.

This study posits that female mentees are uncomfortable in cross-gender mentoring relationships, while in same-gender mentoring relationships, they do not get enough exposure to various mentoring functions coupled with the fact that there are fewer female role models. Few studies have been undertaken on the mentorship of females in the construction industry. This study will examine the level of mentoring functions available to women in the South African construction industry and whether this is influenced by the gender of mentors.

4 METHODOLOGY

A quantitative research approach was adopted in the study, in order to investigate research problems objectively (Creswell, 1994, cited by Naoum, 2003:38). The data were gathered in South Africa by means of a questionnaire self-administered and by e-mail. A survey research design was employed to enable the generalisation of the results obtained to the population of female mentees in the South African construction industry being studied (Alreck & Settle, 2004:447; Girden & Kabacoff, 2011:67). A purposive sampling technique was used in selecting 171 female mentees working in the construction industry from a register of female mentees with the Built Environment professional councils in South Africa. At the end of the study period, complete responses were obtained from 24 female mentees representing a response rate of 14.04%. The low response rate is adduced to the technical problems experienced in the online survey monkey tool; the fact that few women are involved in mentorship relationships; the potential participants showed little interest in participating in the study; and some questionnaires were partially and incorrectly completed; and these could not be used.

A nominal scale was used in categorising the demographics of the female mentees (Wegner, 2009:20); while an ordinal 5-point Likert scale was used to rank the productivity and knowledge gained by the female mentees. An ordinal scale is usually used to serve between the implied classifications (Wegner, 2009:20). The data were analysed, using both

descriptive and inferential statistics. A Kolmogorov-Smirnov and Shapiro-Wilk test was used to test whether a distribution was normal or not (Pallant, 2006:57). When the test significant is greater than 0.05 ($p > 0.05$), it means that the difference was not significant; the distribution of the sample was not significantly different from a distribution, meaning that it was not normal (Pallant, 2006:57).

When the significant difference is less than 0.05 ($p < 0.05$), this means that the test is significant; and, in this case, the distribution in question was significantly different from a normal distribution; in other words, it was normal. The test of normality in the psychosocial-mentoring function and in the career-mentoring function was found to have a significance of 0.05 in Shapiro-Wilk, which was greater than 0.05; indicating thereby, that the distribution was not normal, and that a non-parametric test should rather be used (Field, 2013:144).

The Mann-Whitney test is a non-parametric test that looks for differences between two independent samples; it tests whether the populations, from which the two samples were drawn, have the same location (Field, 2013:878). The Mann-Whitney test is applied in small sample size that are less than 25 (Geert van den Berg, 2016:online; Saunders, Lewis & Thornhill, 2012:520). Cronbach's reliability technique was used to test the reliability-of-scale questions. The results for the reliability test on the career-mentoring function-scale questions showed that the degree level of alpha was 0.84, and in the psychosocial-mentoring function, it was 0.71. Maree (2007:216) states that the reliability-of-scale questions are acceptable when the alpha value is above 0.70.

5 THE FINDINGS

5.1 Profile of the respondents

5.1.1 Gender of the mentors

Table 1 shows the gender of female mentee participants' mentors.

Table 1: Gender of mentors

Gender	Mentors	
	N	%
Female	7	29.2
Male	17	70.8
TOTAL	24	100

From Table 1, the female mentors comprise 29.2%; and male mentors comprise 70.8%. This means that the number of male mentors constitutes a majority; and female mentors are in the minority.

5.1.2 Participant companies

In Table 2, the percentages are given of the mentees' participant companies: contractor firms (40.9%); quantity surveying-consultant firms (3.6%); engineering-consultant firms (13.6%); subcontractor firms (9.1%); public sector (4.5 %); retail property (4.5%); environmental consultant firms (4.5%); research units (4.5%); and health and safety firms (4.5%).

Table 2: Distribution of Participant companies by Practice

Practice	Mentees	
	N	%
Contractor firms	9	40.9
Quantity surveying consultant firms	3	13.6
Engineering consultant firms	3	13.6
Subcontractor firms	2	9.1
Public sector	1	4.5
Property retail/development firms	1	4.5
Environmental consultant firms	1	4.5
Research units	1	4.5
Health and safety firms	1	4.5
Architectural firms	0	0
TOTAL	22	100

5.1.3 Positions of mentees and mentors

The study sought to determine the positions held by the mentees and the mentors. In Table 3, the positions of mentee participants include: engineer in training; intern; civil engineer and engineering technician (20.8%); candidate, assistant and full/professional quantity surveyor (16.7%); research assistants (12.5%); construction health and safety officer, junior health and safety agent (12.5%); environmental practitioner and heritage officer (8.3%); commercial manager (8.3%); supervisor and junior foreman (8.3%); associate (8.3%); and labourer (4.2%).

Table 3: Positions of participants

Positions of participants	Mentees	
	N	%
Engineer in training, intern, civil engineer, engineering technician	5	20.8
Candidate, assistant and full/professional quantity surveyor	4	16.7
Research assistant	3	12.5
Construction health and safety officer, junior health and safety agent	3	12.5
Environmental practitioner and Heritage officer	2	8.3
Commercial manager	2	8.3
Supervisor + Junior Foreman	2	8.3
Labourer	1	4.2
Associate	2	8.3
Construction project manager	0	0
Professional Architect	0	0
Chief works inspector	0	0
TOTAL	24	100

5.1.4 Description of the mentorship of female mentees

The study sought to find out the types of mentorship provided: whether the mentees were mentored in the same organisation and industry.

Table 4: Types of mentorship provided

Types of mentorship	Mentees	
	N	%
Formal	19	79.2
Informal	5	20.8
TOTAL	24	100

Table 5: Mentor or mentee working in the same organisation

Same organisation	Same organisation		Same industry	
	N	%	N	%
Yes	20	83.3	22	100
No	4	16.7	0	0
TOTAL	24	100	22	100

Table 4 shows that a significant number of the mentees (79%) were provided with formal mentorship; while that of informal is 21%. This shows that the majority of mentees are in formal mentorship relationships. Table 5 shows that a significant number of the respondents (83%) work in the same organisation with their mentors; while 17% were not. It can be seen that all the mentees that responded were working in the same industry with their mentors. It also emerged that all the mentors were working in the same industry with their mentees.

5. 2 The testing of hypotheses

5.2.1 Psychosocial-mentoring function

The study sought to know whether there was any statistically significant difference between the genders of the mentors, as genders perceived by the female mentees – influencing them successfully in their psychosocial mentorship in the construction industry. Female mentees were asked to rate the influence of their mentors. Each of the 15 items was grouped into one

of 4 main areas on the survey that represented the psychosocial-mentoring function provided by their mentors. The findings are shown in Table 6. A 5-point Likert-type scale was used for each item, where: 1 = not at all; 2 = to a limited extent; 3 = to some extent; 4 = to a large extent; 5 – to a very large extent. The data collected in this regard are presented in Table 4.

Table 6: Psychosocial mentoring function

Psychosocial-mentoring function	Mentees				
	N	Mean	SD	Rank	Sig
Role-modelling					
I try to imitate the work behaviour of my mentor.	24	3.54	1.02		0.66
I agree with my mentor's attitudes and values regarding the industry.	24	4.00	0.83		0.66
I admire my mentor.	23	4.04	0.88		0.67
I will try to be like my mentor when I reach a similar position in my career.	23	3.74	0.81		0.87
Average	23	3.82	0.74	1	0.87
Counselling					
My mentor has demonstrated good listening skills in our conversations.	24	3.83	1.01		0.66
My mentor has discussed my questions or concerns regarding feelings of competence, commitment to advancement, relationships with peers, and supervisors or work/ family conflicts.	24	3.50	1.06		0.95
My mentor has personal experiences as an alternative perspective to my problems.	23	2.96	1.19		0.62
My mentor has encouraged me to talk openly about anxiety and fears that detract me from work.	23	3.48	1.08		1.00
My mentor has conveyed empathy for the concerns and feelings and doubts I shared with him in strict confidence.	23	3.61	1.03		0.62
My mentor has kept feelings and doubts I shared with him in strict confidence	22	3.95	1.05		0.33
Average	23	3.54	0.89	2	0.49
Acceptance and confirmation					
My mentor has encouraged me to try new ways of performing my job.	24	3.33	1.09		0.85
My mentor has conveyed feelings of respect for me as an individual.	23	4.17	0.89		0.82
My mentor has asked me for suggestions concerning problems s/he encountered at work.	24	3.04	1.37		0.90
Average	23	3.52	0.82	3	1.00
Friendship					
My mentor has interacted with me socially outside the work situation.	23	1.91	1.00		0.82
My mentor has invited me to join him / her for lunch.	24	2.25	1.23		0.06
Average	23	2.04	0.92	4	0.05
TOTAL	23	3.23	0.52		0.84

The study found that the most influencing function in the psychosocial-mentoring function is role-modelling (3.82), followed by counselling (3.54), and acceptance-and-confirmation (3.52). The least-influencing function provided to female mentees was friendship (2.04). A total mean score of 3.23 was achieved by the mentees on the influence of psychosocial-mentoring function they were receiving from their mentors.

A Mann-Whitney test revealed no statistically significant difference (p=0.84) in the average mentor's gender related to psychosocial-mentoring functions. The results reveal that the gender of mentors does not influence the level of psychosocial-mentoring function provided to female mentees. Thus, the hypothesis stating that there is no statistically significant difference between mentors' gender, as perceived by female mentees, influencing them successfully in their psychosocial mentorship, should not be rejected.

5.2.2 Career-mentoring function

The study sought to discover whether there was any statistically significant difference between mentors' gender, as perceived by female mentees in successfully influencing them in their career in the construction industry. Female mentees were asked to rate the extent of the influence of 13 career-mentoring functions grouped into 5 main areas, as presented in Table 7. A 5-point Likert-type scale was used for each item, where 1 = not at all, 2 = to a limited extent, 3 = to a moderate extent, 4 = to a large extent, 5 = to a very large extent. A total mean score of 3.35 was achieved for the rating of the influence of career-mentoring function, as perceived by the female mentees.

Table 7: Items of Career-mentoring function provided to female mentees

Career-mentoring function	Mentees				
	N	Mean	SD	Rank	Sig
Coaching					
My mentor has encouraged me to prepare for advancement in my career.	22	3.73	0.99		0.33
My mentor has shared the history of his/her career with me.	22	3.64	0.95		0.14
Average	21	3.69	0.86	1	0.12
Providing challenging assignments / tasks					
My mentor has given me assignments or tasks that presented opportunities to learn new skills.	23	3.57	1.20		0.49
My mentor has provided me with support and feedback regarding my performance as an employee.	23	3.52	1.20		0.31
My mentor has suggested specific strategies to me, as the mentee, for achieving my career goals.	23	3.65	0.94		0.38
My mentor has given me feedback regarding my performance in my present job.	23	3.65	1.03		0.92
My mentor has suggested specific strategies to me (as the mentee) for accomplishing my work objectives.	24	3.63	0.88		0.62
Average	23	3.61	0.97	2	0.45
Exposure					
My mentor has assigned responsibilities to me that have increased my contact with people in the district who could judge my potential for future advancement.	24	3.42	1.18		0.45
My mentor has given me assignments that increased written and personal contact with work administrators.	23	3.17	1.15		0.06
My mentor has helped me to meet new colleagues.	24	3.13	1.08		0.69
Average	23	3.23	1.00	3	0.43
Sponsoring					
My mentor has given me assignments or tasks in my work that prepare me for a higher position.	23	3.17	1.19		0.85
Average	23	3.17	1.19	4	0.85
Protection					
My mentor has helped me finish assignments / tasks, or to meet deadlines that otherwise would have been difficult to complete.	24	3.33	1.31		0.40
My mentor has reduced unnecessary risks that could threaten the possibility of receiving a promotion.	22	2.91	1.19		0.68
Average	23	3.13	1.02	5	0.63
TOTAL	23	3.35	0.80		0.63

It is evident that the most influential career-mentoring function provided to female mentees from a ranking perspective is coaching (3.69), followed by providing challenging assignments / task (3.61), exposure (3.23), and sponsoring (3.17). It emerged that the least influential career-mentoring function provided to female mentees is protection (3.13).

A Mann-Whitney test revealed no statistically significant difference (p=0.63) in the average mentor's gender related to career-mentoring functions. The results reveal that the

gender of mentors does not influence the career-mentoring function provided to female mentees. Thus, the hypothesis stating that there is a significant difference in the level of career-mentoring function provided to mentees by mentors should be rejected, while the null hypothesis that states that there is no significant difference in the level of career-mentoring function provided to mentees by their mentors based on gender should be accepted.

6 DISCUSSION OF THE FINDINGS

This study examined the level of mentorship functions provided to females in the South African construction industry by mentors and whether the level of mentorship functions provided are influenced by the gender of their mentors. Two mentoring functions – psychosocial and career – were identified through a review of the extant literature (Kram, 1985:22; Scandura & Hamilton, 2002:295). The psychosocial mentoring functions comprise of subjects, such as role modelling, acceptance, and confirmation, counselling and friendship; while the career-mentoring functions cover subjects, such as exposure, sponsoring, coaching, protection, and challenging tasks.

It emerged that while role-modelling is perceived as the highest ranking psychosocial-mentoring function provided by mentors to female mentees in the South African construction industry, coaching is perceived as the highest ranking career-mentoring function provided by mentors to female mentees. It also emerged that friendship is the least ranked psychosocial-mentoring function provided by mentors to female mentees. These findings are aligned to the findings of previous studies by Noe (1988a:464) and Vanderbilt (2010:49). However, these findings are not supported by the results of earlier studies undertaken by Ragins and Cotton (1999:536). The study findings confirm earlier deductions made by Hansman (1998:66) and Verwey (2007:3090) that the mentorship functions provided to female mentees are lacking and not available to a large extent. However, Kram (1983:613) and Steinmann (2006:5) claim, in contrast, that the mentorship functions provided to mentees depend on their particular needs.

The study also revealed that the gender of the mentors did not influence the mentorship functions provided to female mentees. The study findings are aligned with the findings of Mullen (1998:319), while the findings of earlier studies by Allen and Eby (2004:135) and Ragins and McFarlin (1990:333) that female mentors were influential in their psychosocial-mentoring function, while male mentors were influential in their career-mentoring function, contrast with the study findings.

The results further reinforces the importance of policies and legislations in South Africa such as Skills Development Act, Act 97 of 1998; Labour Relation Act, Act 66 of 1995 and Human Resource Development Strategy for the Public Service 2002-2006 that have been enacted to empower the career of previously disadvantaged groups in South Africa such as Blacks and women. The study creates knowledge about mentoring functions to help build mentoring capacity within the framework of statutory institutions such as the Council for the Built Environment (CBE). The CBE has developed a Structured Candidacy Programme for candidates registered with the six Built Environment Professions such as architecture, engineering, landscape architects, projects and construction management, property valuation and quantity surveying, and ensures that candidates are provided with learning opportunities that help develop professional skills and learning opportunities to promote professional growth and individual achievement (Council for the Built Environment, 2016:3). The mentorship programmes such as that provided by the CBE are proven as one of the best tools to assist women to advance in their careers (Stoessel, 2006:5; Washington, 2007:3090). This study supports ongoing discussions in the area of women mentoring and that mentoring functions are equally provided to women by mentors, irrespective of gender.

7 CONCLUSION

It has been viewed by many that females have a limited advancement in the construction industry, because both male and female mentors are not providing enough mentoring functions. Therefore, the study examined the gender influence of mentors on the mentorship functions provided to female mentees. The findings reveal that role modelling and coaching are the highest ranking mentoring functions provided by mentors to female mentees, while friendship was the least ranked mentoring function provided by the mentors. The results of the study also suggest that statistically there is no significant difference in the mentorship functions provided by male and female mentors to female mentees. Based on these findings, it may be concluded that role models and coaching are to a large extent available to female mentees in the construction industry, while the friendship mentoring function is available to a lower extent to female career advancement, and that the lack of progress of female mentees in the construction industry may be as a result of the low friendship functions found to be provided to female mentees by their mentors, irrespective of gender.

Female mentees may feel uncomfortable or disadvantaged in a cross-gender mentorship relationship. At the same time, however, these relationships bring the same

mentoring outcomes to females as they do to same-gender relationships. There is evidence that the mentoring skills of both female and male mentors in the industry are being improved, and that they are not determined by gender characteristics. This means that females are developing in their careers; and they have the same opportunities as males. Furthermore, even though the progress in improving the advancement of women is slow, the country is doing its best to diminish gender inequalities, and to create opportunities for women too.

8. RECOMMENDATIONS AND FURTHER STUDIES

The study recommends that mentees should provide their mentees with more friendship mentoring functions, in order to enhance the career advancement of females in the construction industry. Female mentees should consider entering into more than one mentorship relationship with mentors from different background cultures. In this way, they could learn how to handle different situations, and to experience different career-exposure opportunities.

The results of this study are limited by the smallness of the sample size; therefore, further studies would be required to validate it. Mentors and male mentees should also be included to participate in any future studies.

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**EXCLUSION OF CONTRACTORS IN CONSTRUCTION
CONTRACTS: AN UNREVEALED RISK IN THE
CONSTRUCTION INDUSTRY**

Geraldine J. KIKWASI,

Ardhi University, University /Survey Road Kinondoni, P.O. Box 35176, Dar es
Salaam.Tanzania

ABSTRACT

Contracting firms have been facing temporary and permanent exclusions from participating in tenders as result of not complying with Acts, rules and regulations of their respective countries. Exclusion intends to safeguard Governments and their citizens from unscrupulous contractors. This study seeks to determine risks associated contractors' exclusion from participating in tenders. Using a descriptive research type, data were collected from a population of construction stakeholders. A self-administered questionnaire, interviews, document reviews and literature review were used to collect data from randomly and purposely selected respondents. Quantitative data were analyzed by Statistical Package for Social Sciences (SPSS) through descriptive statistics mainly frequencies and descriptive, and Relative Frequency Index (RFI). Findings reveal varying trends of exclusion from one year to another. The top nine high risks associated with contractors 'exclusion are delay of project completion time; increase in project costs; unpleasant reaction from donors or financiers; deferral of organizations strategic plans, mission and visions; development leaping; contractor's loss of potential staff; contractor's bankruptcy; contractor's financial crises; and diversion and misallocation of resources. This implies that despite the valid reasons leading to contractors' exclusion, there are hidden risks. The paper concludes that exclusion exists with disparities across years, the practice that poses several risks to contractors, clients, consultants and the nation at large. The paper recommends that responsible organs should assess risks associated with exclusion before its implementation.

Key words: contractors, debarment, suspension, tenders, trends, reasons, risks

1. INTRODUCTION

Most countries worldwide have Acts, rules and regulations that provide for defaulting contracting firms 'exclusion through deletion, suspension, debarment or blacklisting (Verma, 2012; Campos, 2014; Manuel; 2011; Canni, 2009; United Republic of Tanzania (URT) 1997: 2011; Wagner, 2013). Reasons for exclusions range from those outlined Acts, rules and regulations to those determine from time by regulatory organs responsible for taking such actions. These reasons are found in the

works of Verma (2012), Campos (2014), Manuel (2011), Canni (2009) URT (1997: 2011 & 2013) and Wagner 2013).

Although exclusion is meant to protect Governments and their residents from unscrupulous contracting firms, there have been critics on the suspension and debarment system. Authors such as Aurioly and Soreide (2015), Schooner (2004), Collins (2004), Canni (2009), Bednar (2004), Shaw (2004), Brian (2004), McCullough and Pafford (2004), Patcher (2004), Madsen (2004) and Williams (2007) have spoken their concern on the system. These critics arise because suspension and debarment poses risks to both firms and clients. Likewise, some authors have established that suspension and debarment are not fairly applied. In Tanzania, although stakeholders are aware of contractors' exclusion and its reasons, the construction industry lacks published work on risks associated such exclusion. This study therefore attempts to fill this gap. To fill the gap, a descriptive type of research was adopted. Data were collected using self-administered questionnaires, interview, documents and literature reviews, and analyzed by Statistical Package for Social Sciences (SPSS). The paper presents a snapshot of risks associated with contractors' exclusion from participating in tenders. The findings of this paper bring to the attention of construction stakeholders risks associated with contractors' exclusion for re-thinking exclusion. In addition, the paper documents previous work on reasons and risks of contractors exclusion; a description of how the research was done, analysis and discussion, and, conclusion and recommendations.

2. EXCLUSION OF CONTRACTORS

2.1. Exclusion definition

Exclusion can be temporary or permanent. Temporary exclusion entails blacklisting, debarment and suspension. Kate (2008) defines exclusion of contractors as a collective word, which means the process of debarment and suspension of contractors collectively. Cayia and McCaslin (2015) define suspension as action taken by a suspending official to disqualify a contractor temporary from government contracting and government-approved subcontracting. They also define debarment as action taken by a debarring official to exclude a contractor from government contracting and government-approved subcontracting for a reasonable, specific period. In many cases debarment and suspension are used interchangeably but more importantly they intend to mean temporary exclusion. Manuel (2011) elaborates that debarment generally removes contractors' eligibility for federal contracts for a fixed period of time, while suspension removes their eligibility for the duration of an investigation or litigation. The Public procurement Act No. 7 of 2011 of Tanzania uses blacklisting and debarment interchangeably which means temporary exclusion from participating in public tenders. Canni (2009) defines suspension as an interim measure to be imposed "pending the completion of investigation or legal proceedings. Consequently, suspension can be assumed under the same ground as blacklisting and debarment or temporary exclusion but with no specified time limit. Other countries including Tanzania practice cross - debarment (Campos, 2014; URT, 2011; Aurioly and Soreide, 2015). Cross debarment is where the contractor is debarred or suspended

in foreign country after confirming that it is debarred in own country or in one state after confirming that it is debarred in own state.

Permanent exclusion entails deletion or de-registration. Deletion or de-registration means de-registering a company/individual who was once registered in by a certain board or institution. URT (1997) states that deletion is almost the same as de-registration but the main difference is that in deletion the firm/individual is being excluded from the registration due to professional/board's misconduct. According to URT (1997) de-registration is not necessary the misconduct but it is a request by the firm /individual to be de-registered from the board/ institution's register.

2.2 Trends and reasons of exclusion

Researchers worldwide have listed reasons for contractors' exclusion from participating in construction contracts. Most of these reasons are traced in various countries acts, rules or regulations. Verma (2012) explains that grounds for suspension and debarment in India are:

- if a firm is suspected to be of doubtful loyalty to India;
- if the Criminal Bureau of Investigation (CBI) or any other investigating agency recommends such a course in respect of a case under investigation;
- or if the Ministry/ Department is *prima facie* of the view that a firm is guilty of an offence involving moral turpitude in relation to business dealings which, if established, would result in business dealings with it being banned.

Campos (2014) and Manuel (2011) disclose causes of debarment to include:

- serious violation of the terms of a government contract, such as intentional failure to perform according to the contract terms and history of unsatisfactory performance;
- violations of the Drug-Free Workplace Act of 1988;
- intentional labeling company's products with "Made in America" inscription, when the products are not made in the United States area;
- commission of an unfair trade practice pursuant to the Defense Production Act;
- delinquent federal taxes in an amount that exceeds \$3000;
- knowing failure by a principal, until three years after final payment on Government contracts, to timely disclose credible evidence of violation of Federal criminal law, civil False Claims Act or significant overpayment on the contract (mandatory disclosure provision); and
- any other serious cause that affects the present responsibility of the contractor or subcontractor.

The World Bank's approach focus on specific bad acts committed by contractors, classified as "sanctionable practices" - corrupt practice, fraudulent practice, collusive practice, coercive practice and obstruction (Campos, 2014).

Wagner (2013) lists the grounds for debarment and these include:

- acts such as commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public contract or subcontract;
- violation of Federal or State antitrust statutes relating to the submission of offers;

- commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violation Federal criminal tax laws, or receiving stolen property; and
- commission of any offense indicating a lack of business integrity or business honesty.

Canni (2009) explains that the blanket provisions provide that contractors may be suspended or debarred for committing any offense indicating "a lack of business integrity or business honesty" or "any other cause of so serious or compelling a nature" that affects the contractor's present responsibility. Manuel (2008) points out that companies can be debarred from contracts due to allegations of fraud, mismanagement, and similar improprieties. Yukins (2013) explains that as anti-corruption initiatives around the world gain momentum, one device for fighting corruption is debarment or "blacklisting" of corrupt or unqualified contractors and individuals has emerged as specifically noteworthy tool. Williams (2007) critically examines corruption-related exclusions and suggests that there is likely to be a number of problems with the implementation of these exclusions.

In Tanzania there are three regulatory organs which can exercise exclusion basing on the provisions of their Acts, Bylaws or Regulations. These organs are Public Procurement Regulatory Authority (PPRA) under Sect 62 of the Act No. 7 of 2011 and Regulation 93 of Regulations 2013; Contractors Registration Board under Section 13 (1) and 15 of the Act No. 17 of 1997 and its miscellaneous amendments Act No. 15 of 2008; and Architects and Quantity Surveyors Registration Board under Sect 4 (iv) of the Act No. 4 of 2010. Recently, there are a number of reported incidences on contractors` failure to comply with these Acts, rules and regulations. Aurioly and Soreide (2015) disclose that in Tanzania, the country's Public Procurement Regulatory Authority suspended 19 firms from competing for public procurement contracts for one year, starting October 2014.

contractors registration board of tanzania through its act no. 17 of 1997 and its miscellaneous amendments act no. 15 of 2008 state that the board shall de-register any registered contractor including its principals or partner if it:

- is found to have been guilty of any act or omission amounting to improper, disgraceful or gross professional misconduct, after due inquiry held by the Board; has breached the regulations or by-laws of the Board;
- has a business license which has not been issued by the Licensing Committee of the Ministry responsible for trade; and
- has procured, a business license without proof of having submitted annual returns to the Registrar of Companies the previous year, having submitted a registration certificate of the Board to the licensing authority or submitting proof of having paid the registration or annual subscription fees to the Board for the year of which the business license is being sought.

Furthermore, the Act states that the Board may delete or de-registered a contractor if:

- the contractor has failed to notify the Registrar of his current address;
- requested that his name be deleted from the register,
- failed to pay annual subscription fees for two consecutive years;
- failed to meet the current registration criteria of the Board;
- failed to discharge his duties, responsibilities and obligations as a contractor;
- and
- been found by the Board to be guilty of any contravention of this Act or subsidiary legislation made under the Act or of any such misconduct as is referred to in section 15.

The PPA of 2011 prescribes grounds that may lead to debarment which include:

- fraud or corruption practices;
- failing to abide with a bid securing declaration;
- breaching a procurement contract;
- tenderer making false representation about qualifications during tender proceeding; and
- any other ground deemed necessary.

The tenderer can be barred for the period determined by PPRA depending on the gravity of the offence.

2.2. *Risks of exclusion*

Exclusion of contractors from participating in public or private projects is a move that is designed to shape their behaviours and safeguard the interest of Governments and their citizens. However, in the process of exercising this right, risks cannot be avoided. Aurioly and Soreide (2015) urge that tendency to exclude suppliers on suspicions of corruption or because of general underperformance, will pose different forms of risk to good procurement. They further state some of these risks to include:

- possible inflation in the number of firms found ineligible for bidding;
- debarment rules may become a handy tool for those seeking a reason to exclude a supplier or terminate a contract; and
- society may find it difficult to tell in these cases whether the debarment decision is motivated by a supplier's underperformance or corruption or by some challenge on the side of the procurement agency, such as lack of funds to finance the completion of a contract.

Campos (2014) explains that the impact of debarment is practically the same in United States, Brazil and World Bank's systems. He further points out that after debarment, the contractor can no longer be contracted by any federal agency (automatic cross-debarment). Canni (2009) categorizes exclusion risks as direct and collateral consequences. Direct consequence means excluding a contractor from competing for and receiving new contract awards. Collateral consequences include:

- termination of ongoing contracts;
- reputational damage and loss of goodwill;
- loss of revenue;
- contraction of credit;
- denial of loans;

- reducing the size of the business;
- delaying or canceling business goals and objectives;
- reducing employee salaries and/or benefits;
- laying off employees;
- loss of employees to competitors;
- denial of commercial contracts;
- denial of state local contracts; and
- bankruptcy.

Authors in United States of America (Schooner, 2004; Collins, 2004; Bednar, 2004; Shaw, 2004; Brian, 2004; McCullough and Pafford, 2004; Patcher, 2004; Madsen, 2004; Zucker, 2004) have expressed their concerns on suspension and debarment system. Schooner (2004) gives an overall criticism of the process. Collins (2004) insists on making the process more equitable, predictable and efficient to preserve the Government's interest. Bednar (2004) is questioning on debarment of an entire corporation; serious misconduct wholly unrelated to the formation or performance of federal contracts; and regulatory standards and safeguards allowing agencies in exceptional circumstances to award new work to debarred corporations. Shaw (2004) argues on the access to information by the debarring organs to prove whether a contractor acted responsibly (alleged underlying misconduct actually occurred) or it is presently responsible (the contractor and its management are currently addressing the problems revealed by the underlying misconduct). He further urges that contractors should not be debarred regardless of the severity of misconduct committed by its employees. Brian (2004) blames the current suspension and debarment system that fail to capture improper activity by major contractors operating within the federal public procurement. McCullough and Pafford (2004) caution contractors, particularly commercial firms new to the public procurement arena, to be aware of the risks associated with the government's suspension and debarment. They further list risks of suspension and debarment as: cancellation of procurements by the Government; inability to obtain additional contracts from the Government; indefinite quantity contracts in progress may be limited or options may go unexercised; and inability to perform on subcontracts with other contractors. Patcher (2004) points out that there are more arenas for suspension and debarment than fraud and contract-specific issues such as lack of business integrity and urges contractors to be more vigilant than ever to ensure the adequacy of their internal compliance mechanisms.

3. METHODOLOGY

The study employed a descriptive type of research that is attempting to uncover risks of contractors' exclusion. Using this type of research, data on trends, reasons and risks of contractors' exclusion were gathered. This involved reaching out regulatory boards, clients, consultants and contractors to provide information. The sample size envisaged was 100. Sampling methods used were purpose and random sampling. Purpose sampling was used to select regulatory boards and clients while random sampling was used to select consultants and contractors.

Data for the study was collected using multiple sources of evidence mainly literature review, documents review, interviews and questionnaires. Review of literature intended to establish work done on the subject matter and the gap. Interviews were conducted with two officials one from Public Procurement Regulatory Authority and another from Contractors Registration Board to obtain more on information on firms excluded and the prevailing reasons. Similarly, documents review mainly internal reports on debarment and suspension and Acts establishing these organs were reviewed to extract reasons for exclusion as provided by their respective Acts and the extent of implementation. Questionnaires containing open and closed questions on reasons and risks of exclusions were self-administered to selected respondents. Hundred questionnaires were sent out and 73 were filled and returned. Out of 73 filled questionnaires, only 58 were fairly filled for use in the study equating to 58% success.

The collected quantitative data were analyzed using the Statistical Package for Social Sciences (SPSS) software version 16.0. Descriptive statistics mainly frequencies and descriptive were employed. Furthermore, for ranking purposes, the Relative Frequency Index (RFI) was calculated. Relative Frequency Index (RFI) is calculated as follows: $RAI = \Sigma W / AxN$

Where; W = weight given to each variable by respondents

A = highest weight

N = total number of respondents.

For the purpose of this study A=5 and N=58. However, for the purpose of this study, amongst 58 returned questionnaires, some of the reasons and risks were skipped by respondents thus N varies from 58 to 55.

Relative Frequency Index (RFI) comparison table was used to assess the results by taking into account the average scores and the RFI as follows:

Table 1. Relative Frequency Index (RFI)

Average Score	RFI	Reason ranking /Risk level
4.0 to 5.0	0.80 to 1.00	High (H)
3.0 to < 4.0	0.60 to <0.80	Medium (M)
1.0 to <3.0	0.20 to <0.60	Low (L)

(Source: Adapted from Chileshe *et al.*, 2007)

4. ANALYSIS AND DISCUSSION

Analysis was done to establish the reasons for and risks associated with excluding contractors from participating in construction projects. Exclusions considered include: deletion, debarment, blacklisting and suspension. Other areas considered in analysis are respondents profile, types exclusions experienced and trends of exclusion.

4.1. Respondents' profile

Table 2 presents information on respondents who participated in the study. The information summarized in the table covers part played by the respondents, profession, experience and project performed by the respondents.

Table 2. Respondents' Profile

Variable	Frequency	Percent
Part played by the respondent		
Consultants	14	25.0
Clients	23	41.1
Contractors	16	28.6
Regulatory bodies	3	5.4
Total	56	100.0
Profession		
Architect	8	14.3
Engineer	26	46.4
Quantity Surveyor	20	35.7
Construction Manager	1	1.8
Others	1	1.8
Total	56	100.0
Experience		
0 - 1 years	4	6.9
2 - 5 years	11	19.0
6 - 10 years	22	37.9
Over 10 years	21	36.2
Total	58	100.0
Number of projects performed		
0 - 1 projects	12	20.7
2 - 5 projects	17	29.3
6 - 10 projects	14	24.1
Over 10 Projects	15	25.9
Total	58	100.0

Results indicate that majority of respondents were clients (41%) followed by contractors (28.6%). Regarding professionals, engineers (46.4%) and Quantity Surveyors (35.7%) participation was good comparing to others. Experience of respondents was remarkable as most of them have experience of over 5 years distributed as between 6-10 years (37.9%) and over 10 years (36.2%). The number of projects that experienced exclusions as indicated by respondents is fairly distributed across the groups with slightly more between 2-5 projects (29.3%).

4.2. Experience on types of exclusion

Clients, consultants and contractors at a given point have experienced exclusion of contractors from participating in tenders. Respondents were requested to indicate types of exclusion they have experienced. Results indicate that majority of respondents have experienced deletion (46%) followed by debarment / blacklisting (37%) and

suspension (18%). This is expected because every year the Contractors Registration Board (CRB) deletes defaulting construction firms which in most cases employees, employers, clients and even consultants are involved.

4.3. Trends of exclusion

This part covers debarment / blacklisting by PPRA and deletion by CRB. Trend of exclusion for this study was meant for 10 years i.e. from 2004 to 2014. However, an interview with PPRA official revealed that although the Public Procurement Act of 2004 had a debarment section, the authority started debarring firms from year 2010. Figure 1 presents number of firms debarred by PPRA each year from 2010. The grounds for debarment are stipulated in the Public Procurement Act 2011 and its Regulations 2013.

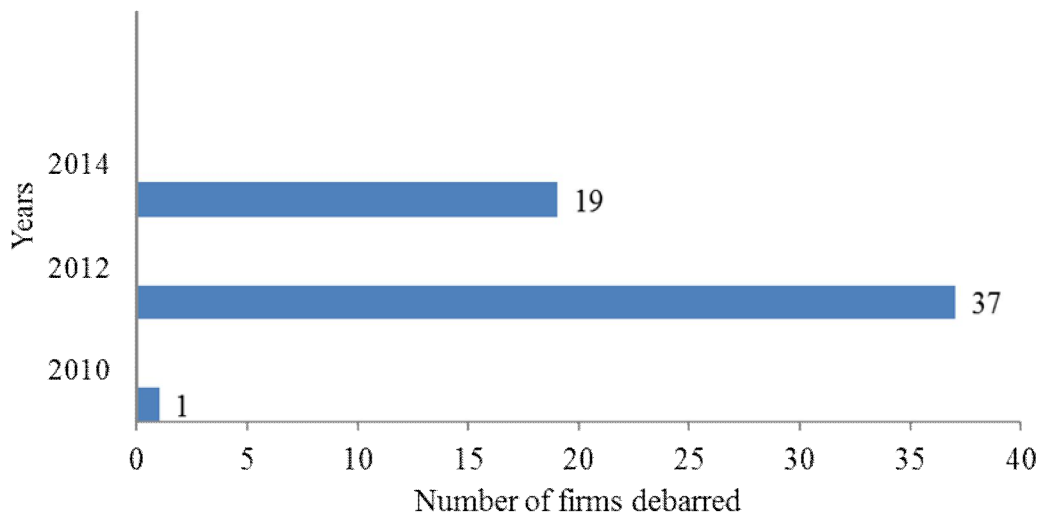


Figure 1. Trend of debarment by PPRA

Figure 1 above depicts an increment in contractors` debarment by PPRA although there was about 50% of reduction between 2012 and 2014. In 2012, the authority debarred 37 firms out of those 29 firms building/civil contractors were debarred for one year (i.e. from 2012 to 2013). In 2014, the Public Procurement Regulatory Authority debarred 19 firms including their directors for a period of one year for failure to meet their contractual obligations. Out of Nineteen firms debarred, 12 were construction firms. PPRA also practices cross debarment if World Bank, international organization or a foreign country debars a firm, it will also face more years of debarment in Tanzania. For instance, section 62 (2) of PPA provides for additional 10 years in case the firm is debarred by World Bank, international organization or a foreign country because of fraud and corruption and 5 years for other reasons.

Figure 2 presents number of firms delete by CRB each year from 2004. The Contractors Registration Board Act No. 17 of 1997 and its miscellaneous amendments Act No. 3 of 2011 stipulate reasons for deletion. About 679 contractors were de-registered in year 2014. However, there is a slight improvement compared to year 2013 when 809 contractors were deregistered.

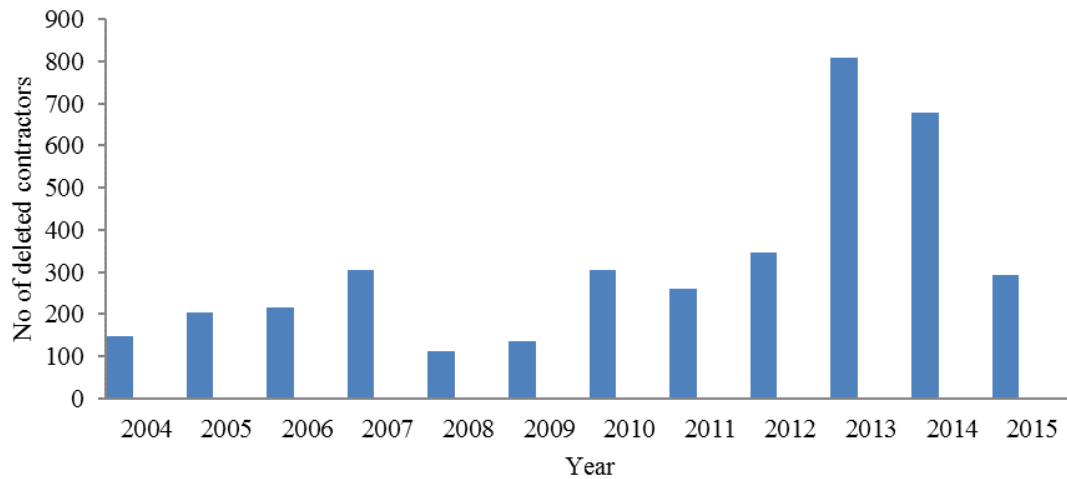


Figure 2. Trend of deletion by CRB

Results indicate that majority of contractors were deleted in year 2013 followed by year 2014 and there is a notable reduction in deletion in 2015. An interview with CRB official revealed that there was a new requirement for contractors to pay the registration fees in the same year in place of the old system where a contractor could pay current year’s fee in the next year. The new requirement led to mass deletions in year 2013 and 2014. He added that even fewer deletions are anticipated in future because many contractors are now aware of the same year fee payment requirement.

4.4. Reasons for exclusions

Table 3 and 4 presents major and minor reasons for exclusion of contractors extracted from the regulatory authorities Acts and literature. Twenty-four reasons were listed for respondents to indicate frequency of reasons leading to exclusion using: 5= very frequent, 4= frequent, 3 = average, 2 = rarely and 1= not at all.

Table 3. Major Reasons for Exclusions

S/N	Reason	N	Mean score	Std. Dev	RFI	Rank
1	Incapacity of the contractors	57	4.16	1.049	0.832	1
2	Failure to commence the contract	56	4.12	1.028	0.824	2
3	Failure to complete the work	57	4.07	1.083	0.814	3

4	Lack of subsoil investigation leading to increase in construction costs	56	4.05	1.069	0.810	4
5	Awarding of the contract to underpriced bid	55	4.04	.981	0.808	5
6	Increased in project scope leading to higher specifications than the contractor could manage.	57	4.04	1.052	0.808	6

Table 4. Average to Minor Reasons for Exclusions

7	Contractors` failure to meet the current registration criteria of CRB	57	3.98	1.261	0.796	7
8	Poor workmanship and performance, and, slow progress on site	56	3.98	1.152	0.796	8
9	Failure of the contractor to discharge his duties, responsibilities and obligations	57	3.95	1.093	0.790	9
10	Inadequate contract administration	57	3.82	1.182	0.764	10
11	Late issuing of instruction and poor communication among the project team members	57	3.47	1.054	0.694	11
12	Lack of site meeting	57	3.47	1.151	0.694	12
13	Abandonment of the site or removal of plant by the contractor	56	3.41	1.156	0.682	13
14	Extensive contractual claim arising from delays	57	2.96	1.295	0.592	14
15	Employing other contractors to carry out the same work without informing the Project manager / Team leader	55	2.91	.986	0.582	15
16	Contractors not having a signboard which shows the names and addresses of the project, client, consultants and the contractors of the project.	57	2.86	1.060	0.572	16
17	Failure of the employer to give access to the site	56	2.70	.971	0.540	17
18	Contractor making false representation about his/her qualification during tender proceedings	57	2.05	.953	0.410	18
19	Public Intervention	56	2.04	.972	0.408	19
20	Been found by the CRB to be guilty of any contravention of the Contractor Registration Act or subsidiary legislation made under the Act or of any such misconduct.	58	1.93	.915	0.386	20

21	Presence of error in project documentation	56	1.86	.749	0.372	21
22	The contractor failing to abide with a bid securing declaration during tendering	57	1.84	.882	0.368	22
23	Corrupt, fraudulent, collusive, coercive or obstructive practices or inducement is established against the contractor	57	1.72	1.176	0.344	23
24	Contractor having a business license not issued by the licensing committee of the ministry responsible for trade.	58	1.62	.791	0.324	24

Results indicate top six reasons of exclusion with RFI between 1.0 and 0.80. These are: incapacity of the contractors, failure to commence the contract, failure to complete the work, lack of subsoil investigation that may lead to increase in construction cost, awarding of the contract to underpriced bid and increased in project scope leading to higher specifications than the contractor could manage are highly ranked reasons leading to exclusions. On the other hand, reasons such as contractor's failure to abide with a bid securing declaration during tendering; when corrupt, fraudulent, collusive, coercive or obstructive practices or inducement is established against the contractor; and when the contractor has a business license which has not been issued by the Licensing Committee of the Ministry responsible for trade were lowly ranked with RFI of 0.368, 0.344 and 0.324 respectively.

Another reasons for exclusion which did not feature well is contractors` not having a signboard which shows the names and addresses of the project, client, consultant and the main contractor of the project (RFI =0.572). However, this is among the reasons AQRB base to issue a ‘**STOP ORDER**’ which suspends project activities for a period of time till when such requirement is met. Moreover, interviews with CRB officials revealed that more than 80% of the contractors are deleted due to failure to abide with registration criteria and few are deleted due to non-performance and even fewer are deleted on their own accord in accordance with Section 13(1) (b) of the CRB Act.

4.5. *Risks of exclusion*

Table 5 presents risks for exclusion of contractors extracted from literature. Nineteen risks were listed for respondents to indicate frequency of risks resulting from exclusions using: 5= very frequent, 4= frequent, 3 = average, 2 = rarely and 1= not at all.

Table 4. Risks of Exclusions

S/N	Risks	N	Mean score	Std. Dev	RFI	Risk level
1	Delay of project completion time	57	4.46	.847	0.892	H
2	Increase in project costs	57	4.39	.861	0.878	H
3	Unpleasant reaction from the donors or financiers	56	4.27	.798	0.854	H
4	Deferral of organization`s strategic plan as well as the mission and vision.	57	4.26	1.027	0.852	H
5	Development leaping	57	4.25	.872	0.850	H
6	Contractor`s loss of potential staff	57	4.25	1.123	0.850	H
7	Contractor`s bankruptcy	57	4.23	1.102	0.846	H
8	Contractor's financial crises	56	4.07	.970	0.814	H
9	Diversion and misallocation of resources	57	4.00	1.018	0.800	H
10	Rises political agenda	57	3.98	1.026	0.796	M
11	Additional cost of procuring another contractor	57	3.98	1.009	0.796	M
12	Loss of reputation of the contractor	56	3.96	.953	0.792	M
13	Cost of handling and operating legal measures	56	3.95	1.017	0.790	M
14	Loss of opportunity to participate in public and private tenders	57	3.63	1.144	0.726	M
15	Disqualified to start a new supply, contracting or consulting firm during that period	57	3.56	1.225	0.712	M
16	Uncompleted projects especially road projects brings about interruptions of peoples day to day activities which may be very chaos to the society	56	3.55	1.143	0.71	M
17	Discourages people`s enthusiasm to promote and stir the development projects	57	2.98	1.026	0.596	L
18	Environmental pollution	56	2.82	.974	0.564	L
19	Removes the trust of the people to their leaders	57	2.79	.940	0.558	L

Results reveals nine top highly ranked risks of exclusion with RFI between 1.0 and 0.80. The lowly ranked exclusion risks are discourages people`s enthusiasm to promote and stir the development projects, environmental pollution and removes the trust of the people to their leaders with RFI of 0.596, 0.564 and 0.558 respectively. This finding is line with works of Canni (2009) and McCullough and Pafford (2004) which collectively reveal that loss of employees to competitors, financial crises, bankruptcy and inability to execute contracts at hand are among the risks of exclusions. However, most of these works (Aurioly and Soreide, 2015; Campos, 2014; Canni, 2009; McCullough and

Pafford, 2004) have repeatedly pointed out loss of opportunity by the contractor to participate in new public contracts as major risk which was found medium in this study. Most provisions of Acts, rules and regulations provide for a debarred or suspended contractor to continue with contracts in hand. This in turn exerts a number of risks to clients' whom their projects are left to proceed such as bankruptcy, financial crises, loss of potential staff and diversion and misallocation of resources.

5. CONCLUSION AND RECOMMENDATIONS

The trend of exclusion of contractors from contracts appears to be varying across the years. Despite these fluctuations, exclusion of contractors still exists. There are many good reasons for excluding contractors from participating in construction projects. These reasons range from non-compliance to country laws to any other justifiable reasons. Reasons leading to contractors' exclusion from participating in tender in Tanzania are linked to failure to deliver the contract such as incapacity of the contractors, failure to commence the contract, failure to complete the work, and awarding of the contract to underpriced bid. These reasons which serve as measures to improve performance as well as enhance compliance pose risks to project participants particularly clients, contractors and even consultants. Basing on 19 risks assessed nine were ranked high and seven-ranked medium indicating the severity of the problem. From this observation and recommendations made in similar studies, this study recommends that:

- Deletion, debarment, blacklisting or suspension shall be exercised upon assessing risks associated with such action; and
- Contractors and clients shall be educated on the risks of exclusion through seminars and workshops for them to make informed decision.

This research has determined risks of exclusion in three levels mainly, High (H), Medium (M) and Low (L). A Further research is of utmost important to establish the probability of their occurrence and eventual consequences.

6. ACKNOWLEDGEMENT

The author of this paper would like to acknowledge the work done by the student Ms. Neema A. Kissimbo whose Masters Dissertation information and data form a substantial part of this paper.

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DEVELOPMENTAL PROGRAMMES AND POLICIES: A LOGIC

MODEL APPROACH

Obuks Augustine EJOHWOMU¹, Morakinyo Kehinde ONIFADE² and Akin Babatunde ADEOYE³

¹Department of Management Technology, Bells University of Technology, Ota, Nigeria, (+234) 0-81-6835-8832, Email: obuksejohwomu@yahoo.co.uk

²Department of Management Technology, Bells University of Technology, Ota, Nigeria, (+234) 0-80-6715-6313, Email: morakinyo.onifade@yahoo.com

³Department of Management Technology, Bells University of Technology, Ota, Nigeria, (+234) 0-81-8619-5528, Email: akin.adeoye@gmail.com

ABSTRACT

Drawing on a review of developmental policies and programmes since post-independence era, the programme logic model (PLM) is accepted as a framework for addressing the research aim, which is to develop a framework for the developmental future of Nigeria. A Logic Model based 6-way heuristic evaluation framework featuring: problems/issues, stakeholders' needs/assets, desired results, influential factors, strategies, and assumptions, were developed. This approach provided a schematic play-out of the feasibility of the evaluated programmes, and weights were assigned to the proposed strategies and their respective expected outcomes by target respondents and Bayes' theorem was applied to the respondents' scores. The findings showed that the strategies for a modest growth in the agricultural sector are provision of incentives for cash crops farming, institutionalising of agricultural practices and re-introduction of agricultural insurance scheme. The current contribution of the agricultural sector to the total GDP is approximately 23.86%. A modest and continuous increase can be expected if the proposed three strategies are implemented on a 3-4-3 basis. The strategies for a modest growth in the manufacturing sector are hastening the development of the infrastructure master plan and public private partnership with successful primary sector players. The current contribution of the manufacturing sector to the total GDP is approximately 4.1%. A modest and continuous increase can be expected if the proposed two strategies are implemented on a 4-6 basis. The strategies for a modest growth in the education sector are core implementation of science and technology based educational policies and innovation and management. The current contribution of the education sector to the total GDP is approximately 3.58%. The implication, therefore, is that there is urgent need to encourage 'productive' infrastructural development, which will jump start a knowledge based economy in the medium-term, and a serviced based economy in the long-term.

Keywords: Developmental programmes and policies, Logic model approach, Nigeria

1. INTRODUCTION

Nigeria is a country richly endowed with both diverse human and natural resources. The country had been viewed “internationally” as an underdeveloped nation with an unpredictable political system. The advent of the current democratic governance structure is expected to put Nigeria in the world knowledge economy index chart where Nigeria is currently not featured. More so, the quest for good leadership by the populace has been enhanced via the democratic process which started sixteen years ago. Succeeding administrations at the three tiers of government; Federal, State and Local, have been portraying their predecessors as regimes with gross policy mismatch. This conflict of interests has resulted in the abandonment of policies and programmes established over time. The resulting impact has been significant increase in cost of projects because they are either abandoned or negotiated at exorbitant contract sums (Mbamali and Okotie 2012).

Nation building is a task bestowed on every person of honour, whether in corridor-of-power or while practising his/her profession; and a nation is a dynamic “entity”. It either grows or decreases in standards. The perceived building blocks of our country are usually represented in sectors. These are mainly, *primary*, *secondary* and *tertiary* in nature, with regards to their impact on the stability of the country economically. Figure 1 is a schematic representation of Nigerian economic sectors.

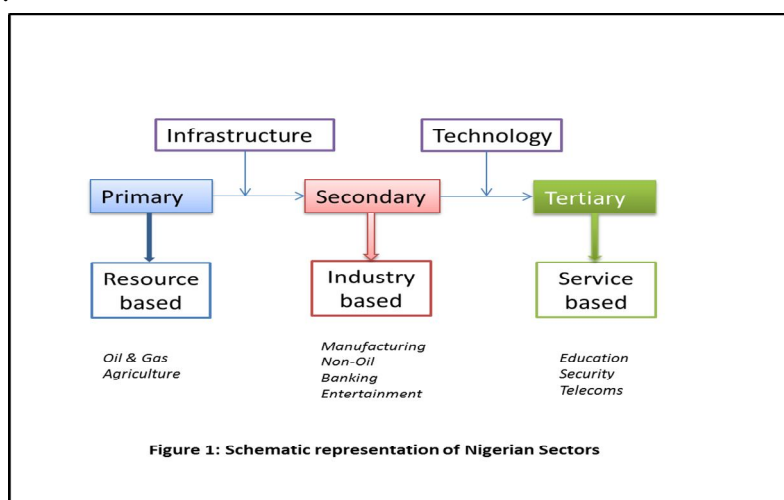


Figure 1: schematic representation of Nigerian economic sectors.

The primary sectors (resource-based) of any economy serve as its building block. The primary sectors of the Nigeria economy are basically Oil and Gas and Agriculture. The former, which provides about 30% of GDP and 95% of foreign exchange earnings, has been experiencing industrial booms while the latter has not benefitted resultantly (Iganiga and Unemhilin, 2001). Ideally, a boom in one primary sector should be divested and re-invested in the other. The secondary sector is industry-based and it comprises manufacturing, power generation, banking,

entertainment, and non-oil extractive industry. The tertiary sector is the service-based sector, which includes transportation, security, education, telecommunication, power distribution and construction. For transition to occur between the primary and secondary sectors, adequate productive infrastructures must be put in place. Similarly, adaptable technology is going to be very critical for transition from secondary to tertiary. The questions, therefore, are: What is the transitional status of the development of this phenomenon called Nigeria? What are the problems stifling a thriving Nigeria, and is it possible to develop sustainable strategies moving forward?

2. NIGERIA'S ECONOMIC DEVELOPMENTAL EFFORTS: SUCCESS AND FAILURE STORIES

The pre-independence era was characterised by agrarian activities, absence of industrial activities and production of primary raw materials for foreign industries and importation of manufactured goods. Post-independence era commenced with the First National Plan (1962-1968), having objectives ranging from discouraging importation of finished products to encouraging locally manufactured products through import substitution strategy. In spite of this, local industries are still heavily dependent on imported raw materials and capital goods.

In order to address the obvious foreign domination of the Nigerian industrial landscape, the Indigenization Policy was promulgated in Decrees in 1972 and 1977. However, the slump in oil price in the early 1980s resulted in doomsday for the high import dependent industries. Policies of import licensing, interest and exchange rates control resulted in acute shortages of industrial inputs with adverse consequences on industrial production and capacity utilisation. During this era, Structural Adjustment Programme (SAP) was adopted in 1986. These reform measures were to, amongst other things, reverse the downward trend in the economy, widen the Nation's industrial base, and enable trade liberalization in order to make the industrial sector competitive. Due to the absence of conducive business environment, the SAP policies had adverse effects on the industrial sector. The third era was the post SAP era. The cancerous impacts of the policy mismatch during SAP era were vividly evident during this period with attendant collapse of so many industries and resultant liquidation of financial institutions. Also, the Secondary sector of the Nation's building blocks was practically in a comatose state until the dawn of the new millennium (Mike, 2010). The newly ushered-in democratic system of governance was bedevilled with this sickening sector which led to the administration's quest for economic re-positioning of the country, through the adoption of policies such as Millennium Development Goal (MDGs), National Economic Empowerment and Development Strategy (NEEDS) amongst others.

Odularu (2008) in highlighting the performance of the oil sector in Nigeria noted that the downstream sector has been the problematic sector over the years. This sector was deregulated by the government in the year 2003. Although Odularu (2008)

argued that the manner of implementation of the deregulation was controversial, the action of government then reduced the perennial problem of fuel scarcity experienced in the country at that point in time. The long-time effect of the policy would have been experienced but the poor state of the refineries and pipeline networks were inhibiting factors to this. The dominance of primary production activities in the Nigerian economy compared with secondary production activities has classified the nation as a resource based economy; and the unequal contributions of the two components of this primary sector to the earnings of the nation has positioned her as a mono-component economy, which is very susceptible to external shocks.

The National Bureau of Statistics (NBS) posited that the structure of agricultural production in Nigeria shows a dominance of crops production which, as at 2009, accounted for 89.1 per cent of the total agricultural output, while livestock, forestry and fishing sub-sectors that hold tremendous potential for growth and development of the economy being a principal source of inputs for industrial production, contributed just 19.9 per cent. This can be attributed to the fact that fishing and livestock production have high level of investment risk while forestry production's payback period is more than five years. The First National Plan that was developed between 1962 and 1968 emphasised the introduction of more modern agricultural methods through farm settlements and supply of improved farm implements. After the civil war, in 1972, some specialised development, such as, National Accelerated Food Production (NAFP) and farm settlement schemes were initiated. Notably, agricultural development interventions namely Operation Feed the Nation (OFN) and River Basin and Rural Development Authorities, Green Revolution Programme were launched in 1976, and 1980 respectively. The World Bank-funded Agricultural Development Projects (ADB), which was running concurrently, was an experimental integrated approach to agricultural development in Nigeria. The shortfall of these interventions was that they sought to improve food crop production only at the expense of cash crop production.

More recently, The Agricultural Transformation Agenda (ATA) was introduced and is aimed at making agriculture work for Nigerians especially farmers (Obiora, 2014). Obiora carried out a study in South-eastern Nigeria and revealed that the on-going Agricultural Transformation Agenda in Nigeria would not be able to transform the agricultural sector from being just a resource-based sector to a service-based sector due to weak capacities of the technology transfer sub-systems' stakeholders with regards to the level of staff trainings, human resource and workforce capabilities. Typical examples of the secondary sector (Industry-based) are the Manufacturing and the Banking sector. Presently, the manufacturing sector of Nigeria includes cement, oil refining and other manufacturing activities. This sector is x-rayed through three eras, namely Pre-independence, Post-independence and Post-Structural Adjustment Programme (Mike, 2010). Similarly, Indigenization Policy (Decrees) of 1972 and 1977, as amended were promulgated to address the obvious foreign domination of

the Nigeria industry landscape.

2.1 Comparing the contributions of the various sectors of the Nigerian Economy

Figure 2 is a trend analysis of the various sectors of the Nigerian economy. The smoothening of the plots comes from the use of interval data sets. Interval scales are numeric scales in which we know both the order and exact differences between the values (Vallenman and Wilkinson 1993).

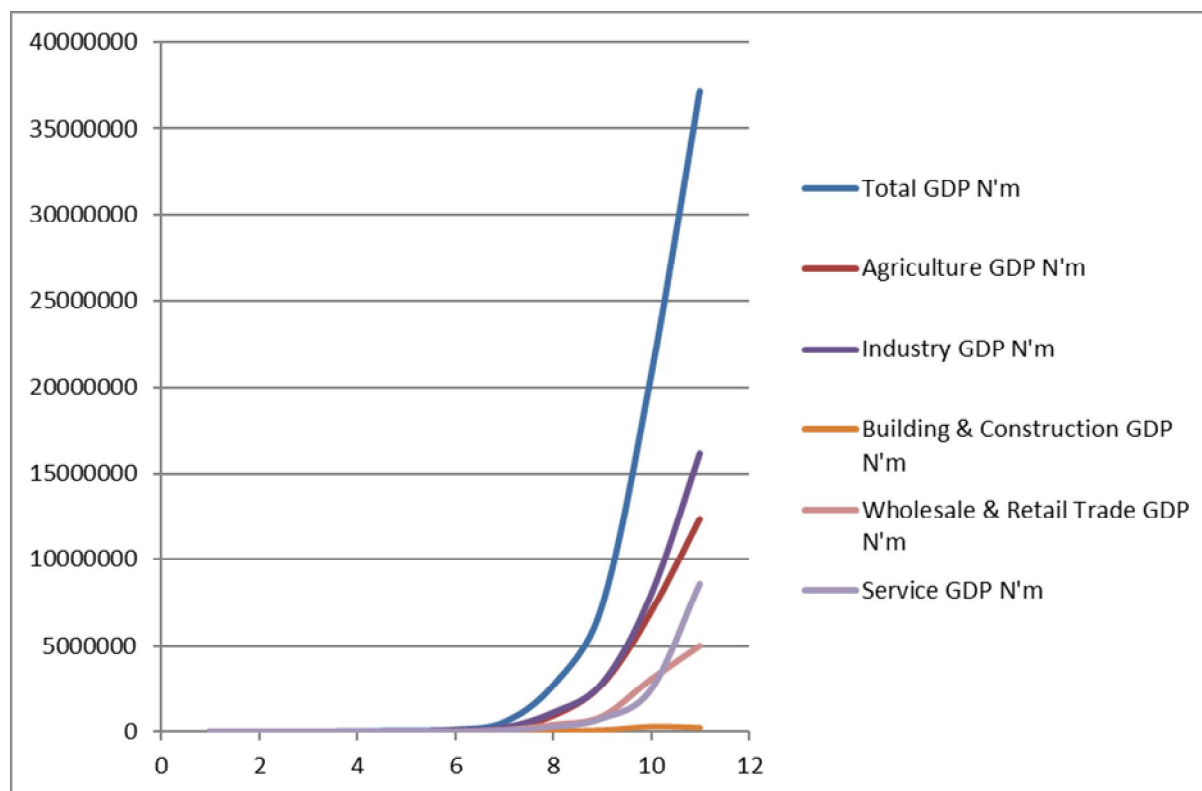


Figure 2: 1960 - 2012 internal time series data of Sectional GDP

Source: Central Bank of Nigeria

Between 2005 and 2009, the agricultural and industrial sectors made modest contributions to the total GDP. A close look at the graph will reveal that the Agricultural sector and the Industrial sector are relatively doing well in terms of their contributions to the GDP. One may be quick to conclude then that the various policies of governments aimed at developing a diversified economy and, hence, a thriving nation, are proving to be effective. While these conclusions may not be far from the truth, it should however be noted that, had these policies and programs been effectively and efficiently implemented, the contributions of these sectors to the GDP would have been far more pronounced than is the case presently. The contributions of the service-based sectors to the GDP is also improving, albeit slowly, for the same reasons.

Interestingly, there is a very poor showing from the building and construction sectors (industry-based sector). This poor contribution to the GDP may not be unconnected to the poor state of infrastructure in Nigeria. This realization shows how important it is to develop ‘productive’ infrastructures in Nigeria in a bid to developing a thriving nation. Where productive infrastructure is one, which besides aligning with the Infrastructure Master Plan, draws on divestment of revenue from the resource base but embedded on logic model approach. Additionally, the technology agents of transition between primary and secondary sectors (see Figure 1) requires holistic redress, else, the gap between agricultural and industry sectors will remain disadvantageously apart. The wholesale and retail trade based sectors are hinged on importation. This unit of the industry sector is likely to stay redundant except the agents of transition are awakened.

2.2 Theoretical Brief on Logic Model (LM)

Sample studies of how the Logic Model can help in formulating, implementing and evaluating government programs and policies effectively were carried out. The LM is a framework and a way of thinking that helps in simulating planning and monitoring program evaluations (Cooksy *et al*, 2001; Dwyer and Makin, 1996; Julian *et al*, 1995). A LM links outcomes (both short-term and long-term) with program activities/processes and the theoretical assumptions/principles of the program. The LM is defined as a picture of how an organization does its work – the theory and assumptions underlying the program. The purpose of the logic model is to provide stakeholders with a road map describing the sequence of related events connecting the need for the planned program with the program’s desired results. Mapping a proposed program helps in the visualization and understanding of how human and financial investments can contribute to achieving intended program goals and how it can lead to program improvements through strategic monitoring and evaluation.

The logic model approach helps in creating common understanding of and focus on program goals and methodology, relating activities to intended outcomes and, since effective evaluation and program success rely on the fundamentals of clear stakeholders’ understanding and expectations about how and why a program will solve a particular problem, generate new possibilities, and optimize the use of valuable assets, the LM is an ideal evaluation framework. The basic logic model is as depicted in Figure 3.

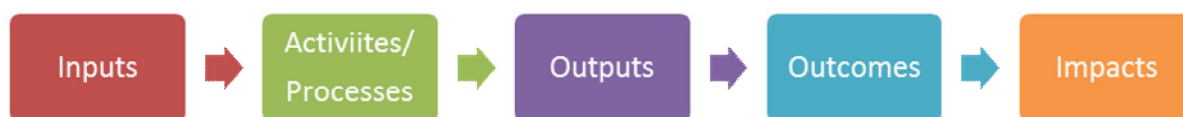


Figure 3: A Basic Logic Model

The human capital, organisational and community resources invested on a program in order to carry on with the processes served as input. The actions carried on the inputs are the program activities. These include the processes, tools, events, technology, and actions that are fundamental to the implementation of the program. The direct results of the processes or activities related to a program stakeholder’s behaviour, knowledge, skills, status and level of functioning, as a consequence of the program outputs are the outcomes. The fundamental change either intended or unintended happenings in the systems, organisations, communities or nations as a result of the program make up the impact.

3. RESEARCH METHODOLOGY

Drawing on the accepted theoretical framework (Logic Model), an action research approach was used in addressing the identified research gap – policy mismatch that is devoid of a whole systems framework – and questions posed in Section 1. Action research supports gathering, analysis and interpretation of information (Berg *et al* 2004). A one day colloquium was organised to discuss the research aim and questions. A total of 99 participants from different sectors were in attendance. Feedback from the discussion informed the honing of the design of the instrument of survey, which was later administered to participants by hand. A total of 35 questionnaires were returned out of the 99 representing a 35 per cent response rate. Additionally, the inputs to various programmes and their associated activities were x-rayed and the stipulated outputs and expected impacts on the sector were quantified. A 6-way heuristic evaluation was carried out based on problem/issue, stakeholders’ need/assets, desired results, influential factors, strategies and assumptions. This evaluation provided a schematic play-out of the feasibility of the evaluated programme. The pay-offs for the logic model were obtained based on the Bayes’ theorem. The Bayes’ probability is determined using formulae shown in equation (1) developed by Levine (2008)..

$$p(E_i | S_j) = \frac{p(E_i)p(S_j)}{p(E_1)p(S_j) + p(E_2)p(S_j) + \dots + p(E_n)p(S_j)} \tag{1}$$

Where,

P(E_i) is the probability of Expected results proposed based on the Logic Model framework

P(S_j) is the probability of proposed strategies based on Logic Model framework

E_i is the specific Expectation based on the Logic Model framework

S_j is the specific Strategy based on the Logic Model framework

$$p(E_i | S_j)$$

is the conditional probability that Expectation (E_i) occurs given that the strategy (S_j) has occurred. This shows the possibility of the outlined expectations (desired results) resulting from the implementation of the proposed strategies based on the Logic Model framework developed. The prior, $p(S_j)$, and posterior, $p(E_i)$ probabilities were based on the weights assigned by the respondents which comprised of professionals in various sectors of the Nation's economy as well as seasoned academics.

The strategies of the model developed for short, medium and long terms were weighed based on their contributions towards the resolution of the perceived problems/issues by experts. This weighting was collated and formed the probability of occurrence for such strategies. The present contribution and envisaged modest growth of the sector under reference accounts for the opportunity loss that may occur when the strategies proposed were not deployed.

4. FINDINGS AND DISCUSSION

4.1 Primary Sector: Analysis of the Agricultural Transformation Agenda (ATA)

In deriving Table 1, sustainable strategy for bridging the gap in the agricultural sector (a primary sector of the economy), the *PLM* was used to analyze the current Agricultural Transformation Agenda of government. This is done by defining the inputs, processes, outputs, outcomes and expected impacts parameters for the agricultural sector in Nigeria under the ATA.

Table 1: Analysis of the Agricultural Transformation Agenda Using the Logic Model

Programmes	Inputs	Activities/Process	Outputs	Outcomes	Impacts
1. Nigeria Incentive-Based Risk-Sharing System for Agricultural Lending (NISRAL)	Time CBN: Agricultural financing value chain Manpower	De-risk lending to the agricultural sector	Improved agricultural lending and development	Increase production and processing of large quantity of agricultural produce	Developed agricultural industrialization process Improved economic earnings across the agricultural

	Farmland				value chain
2. Marketing Corporations	Time Manpower Government supports	Government established commodity marketing corporations around every agricultural commodity. Government set up/run enabled/support institutions to empower farmers and the value chain actors to generate value	Developed private-sector driven-marketing organizations Farmers and value chain actors become empowered	Strengthened markets for agricultural commodities Coordinated production and export of target commodities Secured investments for research and development, infrastructure developments and processing Stimulated development of tailored financial services to grow the agricultural sectors	Growth in the agricultural sector
3. Growth Enhancement Support (GES)	Time Financial investments Manpower Farmland Stakeholders meetings	Provision of series of incentives to critical actors in the fertilizer value chain Provision of GES 20 million farmers with S in four years Provision of direct support to farmers to procure agricultural inputs at affordable prices, at the right time and place	Encouraged critical actors in the fertilizer value chain to work together for improved productivity	Increased use of fertilizers by farmers from 13Kg/ha to 50Kg/ha	Improved productivity, household food security and income of the farmers

		Government roles changed from direct procurement and distribution of fertilizer to a facilitator of procurement, regulator of fertilizer quality and catalyst of active private sector participation in the fertilizer value chain			
4. Staple Crop Processing Zones	Time Government commitments, incentives State government's support (Land capital)	Government put in place tax holidays on import of agricultural processing equipment Government put in place tax holidays for food processors that locate in these zones Government provide supportive infrastructure, especially investment in roads, logistics, storage facilities and power Construction, development and operation of agro-processing clusters located in areas of high-food production across the country. Establishment of Agro-Industrial towns	Reduced cost of doing business for agro-processors to ensure their competitiveness,	Private agribusinesses set up processing plants in zones of high food production., to process commodities into food products Farmers are linked in clusters to food manufacturing plants	Ready markets are created for Nigerian farmers, thereby reducing post-harvest losses. Imports substitution and value addition to local agriculture produce to serve the vast and growing local market Industrialization of the Nigeria economy Job and wealth creation Reversal of rural-urban migration

The short-term model (see Figure 4) is a derivative of Table 1. Here, the primary problem or issue is the need to bridge Nigeria's resource base gaps - between Oil and Gas and Agriculture – with particular emphasis on enhancing the primary sector's contribution to total GDP. The adopted framework allows the model to assume that

agricultural policies are adequate and productive over a 5 year period then the strategies listed in Figure 4 will lead to a modest increase in total GDP. This is however subject to the influential factors identified and resultant stakeholder needs. The importance of the sign posted farmland ownership structure and diversification of Nigeria’s current resource base cannot be over emphasized. The success of some of today’s leading economies is dependent on the theory of property rights land use model (Coase 1960). The results of operationalising the short-term model showed that the funding ratio for the prescribed strategies is 3:4:3.

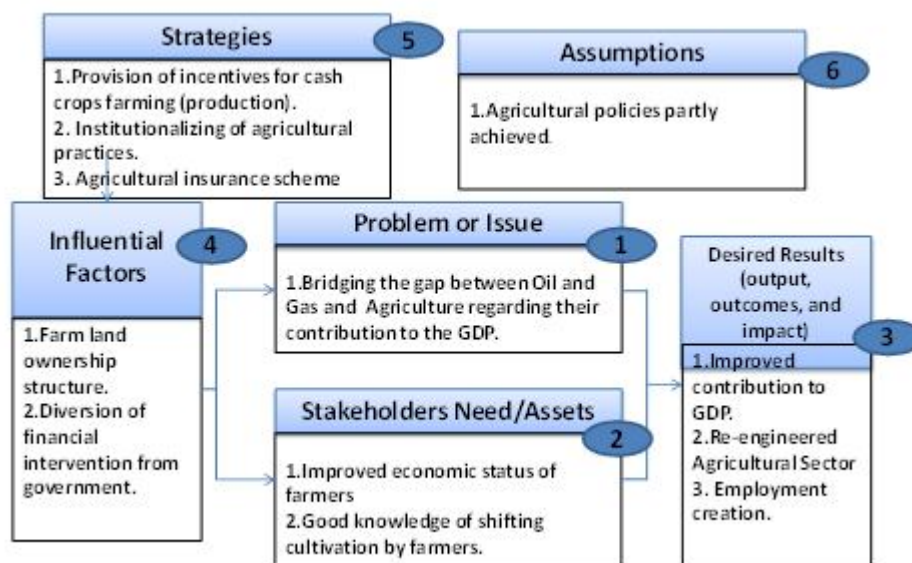


Figure 4: Short-term Developmental Model

The developed strategies for a modest growth in the agricultural sector are *provision of incentives for cash crops farming* (S_{A1}), *institutionalizing of agricultural practices* (S_{A2}) and *re-introduction of agricultural insurance schemes* (S_{A3}). The current contribution of agriculture to the total GDP is approximately 37.02%. A modest and steady increase can be experienced if the proposed three strategies (S_{A1} , 2 and 3) are implemented on a 3:4:3 funding rational basis. The derived ratio was as a result of weights allocated to each strategy by some experts consulted during the pilot survey carried out.

5.1 Secondary Sector: Analysis of the Nigeria Industrial Revolution Plan (NIRP)

The Nigeria Industrial Revolution Plan (NIRP) is designed as a 5 year plan to accelerate the build-up of industrial capacity within Nigeria. The plan aims to increase manufacturing’s contribution to GDP from 4 per cent to 6 per cent by the end of 2015, and finally above 10 per cent by 2017. This plan has been analyzed by defining the inputs, processes, outputs, outcomes and expected impacts parameters for the NIRP as shown in Table 2.

Table 2: Analysis of the Nigeria Industrial Revolution Plan (NIRP) Using the Logic Model

Programmes	Inputs	Activities/Process	Outputs	Outcomes	Impacts
1. Agribusiness and Agro Allied	Agricultural transformation Agenda (ATA) Adequate Infrastructure Manpower	Mid-stream and downstream processing and market activities Integrate ATA into NIRP Manpower development	Increased agro-output to feed industry and the NIRP	An end-to- end integrated agro value chain is built Boosted local production to meet local Demand	Maximize the benefits from Nigeria's agricultural resources Reduction in Nigeria's reliance on Imports of processed food products.
2. Solid minerals and Metals	Raw material reserves Adequate Infrastructure Manpower	NIRP will create a strong industry that can tap into the mining sector (with initial focusing on the iron ore value-chain) NIRP will create an enabling environment targeting large scale investors Manpower development	Acompetitive advantage around high value high-volume products further down the value-chain (e.g. Automotive) is created.	Institutionalization of large scale production standard in Nigeria	Enhanced industrial output
3. Oil and Gas related Industry	Hydrocarbon reserves Adequate Infrastructure	Use cheap and abundant gas to revitalize industries. Manpower development	Encourage high value-adding downstream investments	Competitive oil and gas-driven industries	Institutional industrial strengths within the country built
4. Construction, Light Manufacturing, and Services	Time Manpower	Manpower development	Nigeria's infrastructural needs met	Nigeria's business need for infrastructures and housing met	An industrialized economy

The medium-term model (see Figure 5) is a derivative of Table 2. Here, the

problem or issue is the need to create an enabling environment for industrialization. The adopted framework allows the model to assume that there is consistency in policy during the short-term phase. The two strategies listed in Figure 5 (to hasten the development of the infrastructure master plan and PPP with successful primary sector players) will lead to a modest increase in the contribution of the secondary sector to the total GDP if the strategies suggested for their growth are implemented on 4:6 funding rational bases. This is however subject to the influential factors identified and resultant stakeholder needs.

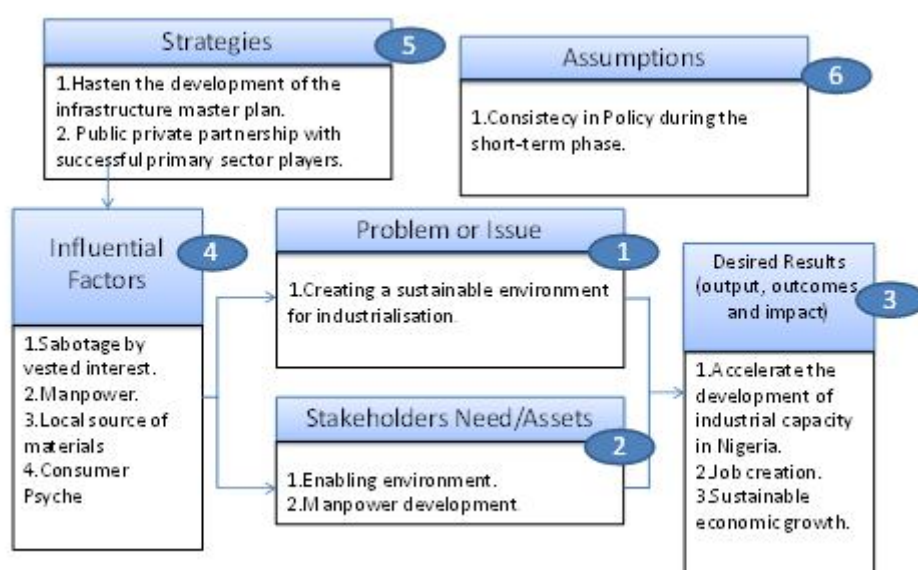


Figure 5: Medium-term developmental model focusing on Manufacturing

5.2 Tertiary Sector: Analysis of the Nigeria Education Sector using the Logic Model

As a sample study in deriving the sustainable strategies for developing the tertiary (service-based sector shown Figure 6) of the Nigerian economy, the Logic Model framework was applied to the Nigeria 9-3-4 system of Education. This is done by defining the inputs, processes, outputs, outcomes and expected impacts parameters for the education sector as shown in Table 3

Table 3: Analysis of the Nigeria 9-3-4 System of Education

Programmes	Inputs	Activities/Process	Outputs	Outcomes	Impacts
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<p>1. Universal Basic Education (UBE)</p>	<p>Free and compulsory education Government funds Adult and non-formal educational programmes at primary and junior secondary school levels for both adults and out-of school youths</p>	<p>Mobilize the nation's creative energies to ensure that education for all becomes the responsibilities of all Provision of free and universal basic education for every Nigerian child of school-going age. Improve the relevance, quality and efficiency and ensure the acquisition of appropriate levels of literacy, numeracy, manipulative, communicative and life skills, as well as the ethical, moral and civic values needed for laying a solid foundation for lifelong learning. All parents will ensure that their children or wards attend and complete their primary education and junior secondary school.</p>	<p>Children have a continuous, uninterrupted stretch of education for 9 years from primary school to the 3rd year of the junior secondary school Adults who have been out of school before acquire the basic skills needed for lifelong.</p>	<p>Equal education opportunities for all Drastic reduction in the incidence of drop out from the formal school system A solid foundation for lifelong learning</p>	<p>Eradicate illiteracy Everyone is prepared for the acquisition of any knowledge</p>
<p>2. Senior Secondary Education</p>	<p>Senior secondary school curriculum Admissions</p>	<p>Government regulations Offering diversified curriculum to cater for differences in talents, opportunities, and future roles</p>	<p>Trained manpower in applied Science, Technology, art and Commerce Provision technical knowledge and vocational skills for students</p>	<p>Broadened knowledge and skills of students beyond the basic level Development and promotion of Nigerian languages, arts and culture Inspired students with a desire for self-improvement and achievement</p>	<p>Developed generation of people who can think for themselves, respect the views and feelings of others, respect the dignity of labour, appreciate national values, and live as good citizens.</p>

				of excellence	Fostered national unity
3. Tertiary Education	Subsidy on tertiary education by the FG Admission of students Curriculum	Provision of affordable tertiary education to individuals Training of individuals in different disciplines Development of proper value orientation	Acquisition of both physical and intellectual skills Acquisition of specialized skills	Individuals developed intellectual capacities to understand and appreciate their environment Development of professionals	Objective, productive, self-fulfilling and self-reliant individuals. Useful members of the society developed Sustainable society.

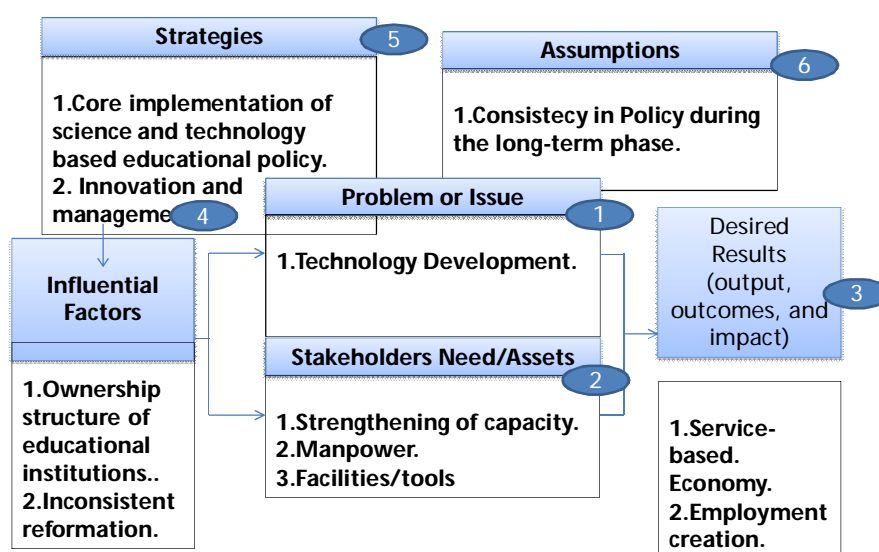


Figure 6: Model development for Long-Term Strategy (Education)

The manufacturing arm of the industry sector as well as the educational arm of the service sector can experience a modest and continuous increase in their contributions to the total GDP if the two strategies (core implementation of science and technology based educational policy and innovation management) suggested for their growth are implemented on 4:6 funding rational basis.

The Bayes’ rule was applied to the weights, obtained from the survey, associated with strategies and their respective expected outcomes of the short term, medium and

long term developmental plans. The prior probabilities that the strategies are deployed were related to the posterior probabilities of the expected outcome. The degrees of belief (doB) and the long run frequencies for various developmental plans' strategies and expected outcomes are shown in Table 4.

Table 4: Bayes' Long Run Frequency for Short Term Plan

Expected Outcomes' doB	E ₁ (0.3)	E ₂ (0.3)	E ₃ (0.4)
Strategies' doB			
S ₁ (0.3)	0.3	0.3	0.4
S ₂ (0.4)	0.3	0.3	0.4
S ₃ (0.3)	0.3	0.3	0.4

The strategies for a modest growth in the agricultural sector are *provision of incentives for cash crops farming, institutionalising of agricultural practices and re-introduction of agricultural insurance scheme*. The current contribution of the agricultural sector to the total GDP is approximately 23.86%. A modest and continuous increase can be expected if the proposed three strategies are implemented on a 3-4-3 basis.

Table 5: Bayes' Long Run Frequency for Medium Term Plan

Expected Outcomes' doB	E ₁ (0.5)	E ₂ (0.3)	E ₃ (0.2)
Strategies' doB			
S ₁ (0.4)	0.5	0.3	0.2
S ₂ (0.6)	0.5	0.3	0.2

The strategies for a modest growth in the manufacturing sector are *hastening the development of the infrastructure master plan and public private partnership with successful primary sector players*. The current contribution of the manufacturing sector to the total GDP is approximately 4.1%. A modest and continuous increase can be expected if the proposed two strategies are implemented on a 4-6 basis.

Table 6: Bayes' Long Run Frequency for Long Term Plan

Expected Outcomes' doB	E ₁ (0.5)	E ₂ (0.5)
Strategies' doB		

S ₁ (0.4)	0.5	0.5
S ₂ (0.6)	0.5	0.5

The strategies for a modest growth in the education sector are core implementation of science and technology based educational policies and innovation and management. The current contribution of the education sector to the total GDP is approximately 3.58%. A modest and continuous increase can be expected if the proposed two strategies are implemented on a 4-6 basis.

5. CONCLUSION AND RECOMMENDATION

The research was able to model the Nigeria economy and segmented it into three sectors with plans that could lead to developments in these sectors. The envisaged developmental plans were in short, medium and long terms and the implementations of their proposed recommended strategies were indicated. The findings from this research can help the government to contextualize Nigerian economic development as a project that can be actualized if the necessary metrics are provided as recommended.

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ECONOMIC DEVELOPMENT AS A FUNCTION OF CONSTRUCTION PROJECT PERFORMANCE

Ayodeji OKE¹, Adedayo OGUNGBILE², Luqman OYEWOBİ³ and Callistus TENGAN⁴

¹Department of Construction Management & Quantity Surveying, Faculty of Engineering and Built Environment, University of Johannesburg, Johannesburg, South Africa, 2028, PH (+27) 0-84-915-5117, Email: emayok@gmail.com.

²Department of Quantity Surveying, School of Environmental Technology, Federal University of Technology, P. M. B 704, Akure, Nigeria, PH (+234) 80-693-79330, Email: Adedayo_johnson@ymail.com

³Department of Quantity Surveying, School of Environmental Technology, Federal University of Technology, P. M. B 65, Minna, Nigeria, PH (+234) 80-338-23132, Email: l.oyewobi@futminna.edu.ng

⁴Department of Building Technology, Bolgatanga Polytechnic, P. O. Box 767, Bolgatanga-Ghana, PH (+233) 208248998, Email: callyclarke@gmail.com

ABSTRACT

Poor performance of construction projects is one of the major cause for concern in the construction industry. Many of the construction projects executed in Nigeria experienced several challenges ranging from simple to complex issues. This paper therefore, examines factors affecting the performance of construction projects, their effects on the economic development and the impact of the factors on the economic development of the nation. The study identified a set of factors believed to affect project performance through extensive review of literature which form the basis for questionnaire survey. A total of 200 questionnaires were self-administered to professionals in the Nigerian construction industry, out of which 148 were retrieved and considered fit for analysis. The survey findings indicate that the most important factors affecting project performance are: project design cost, project complexity, unavailability of resources, quality of equipment and raw materials, while on-time completion, client satisfaction and productivity were considered to be the main measures of construction project performances. Improvement in technology and extension of infrastructures, were the most important indices of economic development. It is recommended that project owners must work collaboratively with all the professionals involved in carrying out construction project in order to facilitate good performance. More so, stakeholders in the construction industry including professionals and regulatory bodies should be proactive in discharging their responsibilities bearing in mind the effect of construction project performance on economic development of the country. .

Keyword: Construction, Development, Economic, Performance, and Project

1. INTRODUCTION

Every activity is success driven and construction project is for no reason an exception. The indistinct definition of project success and the different views of participants towards this concept, has made it difficult to tell whether a project is successful as there is a lack of unanimity. Time, cost, human resources and materials to be used for construction project have long been the success criteria used to evaluate the quality performance of any construction project (Collins, 1996). The failure of any construction project is mostly related to the performance problems and there are many reasons and factors which are attributed to such problems. A large number of performance indicators such as time, cost, quality, client satisfaction, client changes, business performance, health and safety could be related to various dimensions and used in measuring and evaluating project performance (Cheung, Suen & Cheung 2004). Chan and Kumaraswamy (2002) opined that construction time is very important because it often serves as an essential benchmarking for measuring the performance of a project and the competence of the project organization. Until recently, maintaining steady cost projection on construction projects had been an issue of serious concern, both to the client and project contractors. Construction project development involves several parties, many processes, diverse phases and stages of work and abundant deal of input from both the public and private sectors, with the major goal being to bring the project to a successful completion. (Takim & Akintoye, 2002). The construction industry is vital for the growth of the economy of any nation. In many ways, the speed of the economic growth of any country can be measured by the rate of development of physical infrastructures, such as buildings, roads and bridges. According to Collins (1996), as construction gets more complex, a more sophisticated method is necessary to deal with commencing, scheduling, funding, designing, approving, executing and completing a project. The level of success in carrying out construction project development activities will rest heavily on the class of the decision-making, financial, the time set for the project to be completed and organizational performance of the respective parties.

Oke & Abiola-Falemu (2009) revealed that the quality of materials and workmanship in Nigeria building industry is not satisfactory and that the problem is in the use of inappropriate materials supplied to site and inefficient of workmen. The active management of human resources is the key towards attaining the greater construction workers productivity thus undertaking the construction projects within their predefined limits and scope. The building construction industry in Nigeria is a fast emergent sector of the economy which was documented to have a growth rate of more than 20% between 2006 and 2007 (Oke & Abiola-Falemu, 2009). This recorded growth has, however not been proportionate with the growth of Nigeria's total Gross Domestic Product (GDP) as the total contribution of the construction industry to the nation's GDP remains very low at 1.83% in 2008 (Oke & Abiola-Falemu, 2009). The key influences that have added to the growth in the construction and property sector include extraordinary demand for buildings from corner to corner of all sectors of the economy; the concentration on infrastructure improvement by state and federal governments; the acceptance of privatization and commercialization as tools of federal government policy and efforts at controlling regulations concerning to how the constructions business is done in the country (Trade Invest Nigeria, 2012).

The construction industry is composite in its nature because it involves huge numbers of parties as clients, contractors, professionals, investors, and supervisory bodies. In spite of this intricacy, the industry plays a key role in the development and accomplishment of the general public's goals. It remains one of the major industries with a contribution of 10% to the Gross National Product (GNP) in developed countries (Navon, 2005). Nigeria is no exclusion of this; the native construction industry is one of the focal economic driving sectors, supporting the country's economic activities. Though, various indigenous

construction projects report poor performance due to various obvious project-specific causes such as: unavailability of materials, unwarranted alterations of design and sketches, poor organization amongst participants, ineffectual monitoring and feedback, and dearth of project management expertise.

Kim and Wileman (2003), stated that international construction projects performance is affected by more complex and dynamic factors than domestic projects; frequently being exposed to serious external uncertainties such as political economical social and cultural risks, as well as internal risks from within the project. Mostly, performance measurements may have one or more pointers, and could be swayed by several project features. This research work examined the factors that affect the performance of construction projects and the measures of construction project performance. The research work evaluated the indices of economic development and in general accessed the effect of construction project performance on the economic development of Nigeria.

2. CONCEPT OF PROJECT PERFORMANCE AND ECONOMIC DEVELOPMENT

Akanni, Oke and Akpomimie (2015) opined that the success of performance determines the success of construction projects. Performance measurement is well-defined to be the process of appraising performance with a distinct goal in focus. It is an indication of the present state and more importantly, what it is expected to look like at completion (Arditi & Gunaydin, 1997). Furthermore, it was stated that measurement could guide stable progression toward creating goals and ascertaining shortfalls or unproductivity. To address performance linked issues, numerous researches have been done in various countries of the world. Chua (1999) developed a categorized model for construction project success for diverse project objectives. In the study, Chua (1999) found that four main project aspects influences quality objectives, namely; project characteristics, contractual arrangements, project participants, and interactive processes. However, Chua (1999) lectured that time, cost, quality objective in addition to project satisfaction have a tendency to be the most significant keys to measure the complete performance of a project. In addition, as indicated by many studies, most project records cost or time overrun during their tenure of execution. According to Arditi and Gunaydin (1997), achievement of satisfactory levels of quality in the construction industry has been a long-term problem. The last three decades have witnessed innovative studies on improving quality performance of construction projects. Many emphasized that the management of quality is a vital matter in the delivery of construction projects and similarly maintained the significance of evaluating performance for the reason that it will point out status and path of a project. Performance can be measured by making a comparison of the difference between the expected and what is in point of fact received. Love, Tse and Edwards (2005), stated that clients would generally be satisfied with the performance of a professional when the value of service delivery goes beyond or at minimum is at par with the expected result. Quality, plus project success, in construction projects should be capable of being regarded as fulfillment of expectation of those contributors and investors involved in such developments. Compliance to good performance standards in construction projects is very important if the administration and implementation of such projects is to be an accomplishment. Consultants needs to be aware of their weaknesses or shortages and make conforming modifications to fulfill the expectations of clients to realize contractual improvement. Arditi and Gunaydin (1997) found that organization guarantee to uninterrupted quality enhancement, organization leadership in certifying extraordinary practice; in-depth training of all workforces; proficient coordination to stimulate quality concerns at the corporate level; and effective teamwork amongst parties taking part in the

project are universal factors that affect quality. Stakeholders need to meet their requirements collectively and individually for successful construction project performance to be achieved.

2.1 Factors Affecting the Construction Project Performance

There are three stages a typical construction project undergoes, which are; pre-construction stage, construction stage and post construction stage. Beside these stages, a numerous of activities are performed to attain the output and intents of the owner. It is therefore of importance for the construction project team, to measure and make an evaluation its performance on the all activities and practices all through the duration of the construction project (Love et al., 2005). Love et al., (2005) opined that performance of a project can be measured as a product of the process along with the presence of the process. Unsuitability of the selected procurement system as seen in Dissanayaka and Kumaraswamy (1999), is one of the main reason for the poor performance of the construction industry. Chan and Kumaraswamy (2002) stated that a crucial benchmarking in the measurement and evaluation of project performance and project organization's efficiency is construction duration. People, quality, time, cost, health and safety, environment, communication, client satisfaction and a controlled system were identified by Chan and Kumaraswamy (2002) as important projet performance elements in the identification of the factors affecting construction project effort. It was obtained by Stewart (1967) that human factors played an important role in determining the performance of a project. The factors affecting construction performance are majorly classed to include **Cost Factors** which includes profit rate of project (Andi & Minato, 2003), project design cost (Andi & Minato, 2003), waste rate of material (Cheung et al., 2004), cost of variation order (Ssegawa, Mfolwe, Makuke, & Kutua, 2002), and cost of reworks (Ssegawa *et al.*, 2002); **Time Factors** which includes unavailability or late arrival of resources to site, average delay in regular payment (Aibinu & Odeyinka, 2006; Kim & Wileman, 2003), time needed to rectify defects (Aibinu & Odeyinka, 2006), and planned time for construction (Aibinu & Odeyinka, 2006); **Quality Factors** which are quality of equipment and raw materials, unavailability of competent staffs (Aibinu & Odeyinka, 2006), conformance to specification, and quality assessment system in organization (Achi, Onukwube & Ajayi, 2007); and **Productivity Factors** which are project complexity (Achi, Onukwube & Ajayi, 2007), management-Labour relationship, sequencing of work according to schedule (Aibinu & Odeyinka, 2006), and number of new projects per year (Kim & Wileman, 2003).

2.2 Measures of Construction Project Performance

A synonym for success, according to Kim and Wileman (2003), is effectiveness, which is the measure of achievement of set objectives. Projects are shaped to achieve objectives and the measure of success id dependent on the extent of achievement of the set objectives with top priorities of the project objectives set at meeting project time, maintaining the proposed budget estimates, technical specification and mission to be performed, all which are the standards for measuring project success. This is in agreement with De wit (1988) findings that overall objectives of the project is key to project success measurement. To be specific, according to some researchers, the concept of success in a construction project is

corresponding to the efficiency and effectiveness measures. The maximization of output for a specified level of input or resources is generally agreed as efficiency, while the achievement of goals or objectives is regarded as effectiveness. Project success in term of efficiency is the adherence to schedule, time, specifications, budget, and basic performance expectations. Hence, efficiency measures can be said to deal with 'time, budget and specifications' (Yasamis, Arditi & Mohammadi, 2002). Consequently, an effective construction project must be in accordance with the set objectives of the project and should in the end meet the clients' goals and objectives. According to De wit (1988), performance measurement can be classified based on the area of measurement and method of measurement. The methods of measurement of success can be in terms of performance; the overall performance in particular the commercial performance at completion of the project. Additionally, De wit (1988) proposed a model of performance measurements in relations to outputs and resources to be measured at different levels of the project. However, outputs are measured to determine the effectiveness as regards to time, budget, specifications, etc. and resources are measured to determine the efficacy in terms of how the available resources have been maximized for the production of output (Yasamis et al., 2002). Hence, moral and economical interest of the stakeholders are adequately incorporated in performance measurement of any given project. It should be a comprehensive measure of client satisfaction during and after project completion, cost maximization on the project in ensuring value for money spent, overall satisfaction of the project team, on-time completion, and resource management (Yasamis et al., 2002).

2.3 Indices of Economic Development

Although it contributes less than the manufacturing industry and/or other service industries, the construction industry in Nigeria has continued to occupy an essential position in the country's economy (Aibinu & Jagboro, 2002). The construction industry has contributed a lot to the economic growth and this has necessitated an improved efficiency in the industry by means of cost timeliness and effectiveness, and this would consequentially contribute to cost savings for the country as a whole. As the construction industry in Nigeria is growing on a day-by-day basis, there are many indications that reflects that this growth being seen in the construction industry has a consequential effect on the economy of the nation as a whole (Aibinu & Jagboro, 2002). These indicators are seen in the improvement in technology in the industry, increase in government expenditure towards construction activities leading to creation of more employments opportunities to the youths in the country, the utilization of natural resources that abounds in the country for various construction materials used in the construction industry, Trade diversification within the industry and an increase in entrepreneurship within the industry as many sub-contractors are surging up on a daily basis (Aibinu & Jagboro, 2002). Moreover, the growth of the construction industry in Nigeria has gave way for increased protection of human rights of labour (skilled and unskilled), professionals and contractors involved in construction works, an increase in buildings and infrastructural components, leading to massive and continued urbanization and extension of basis amenities. Also, as buildings, bridges and roads are the product of the construction industry, there is an increase in modern construction products in the country and this is even leading to exportation of finished goods (in this case, construction professionals) to neighboring countries (Aibinu & Jagboro, 2002). These perceived and laudable

improvements in the construction industry serves as notable and important indicators to the importance of construction in the life of the nation's economy.

2.4 Construction Project Performance and Economic Development of Nigeria

Ever since Nigeria's Independence in 1960, the primary production of the country; agriculture, quarrying and mining (crude oil and gas inclusive) have been the major contributors to the economy amounting to over 80% of government revenue and almost 60% of the GDP and as a result, the economy remains weak, narrow and undiversified. Additionally, 75% of employment in the nation and over 90% of foreign income accrue from these primary production activities (NBS, 2011). On the other hand, building and construction, manufacturing etc. which are the secondary activities with a tradition of having a greater possibilities of generating massive employment opportunities, ability to widen the production base of the country, creating a more sustainable foreign income and government revenues merely account for 4.14% to 2.0% of the GDP (NBS, 2011). However, in the last decade, some meaningful changes have taken place in the output structure of the economy of the nation. An obvious change is the emergence of the telecommunication sector which has caused a substantial and sustained increase in the GDP growth and created a lot of employment to the youths of the country. That said, the economy continues to face a number of challenges that has disadvantaged the economic transformation agenda. A respectable GDP growth was experienced between the year 2006 and 2012 with an annual average of 6.5% (CBN, 2011), but the said growth did not bring an appreciable amount of new employment neither did it reduce the poverty growth rate in the country. Rather, the prevalent security problems, collapsed government systems and structures, and unceasing non-functional infrastructure continued to face the economy.

However, in developing and developed economies, the construction industry can be seen as the economic sector which through adequate planning, design, implementation, maintenance, repair and operation, can transform different available resources that abound in those countries into constructed and useful facilities. The construction products ranges from public and private facilities, residential and non-residential apartments to industrial constructions, and all these facilities play a major and highly visible function in the developmental process of the nations (Kheni, Gibb, & Dainty, 2008). The government acts as the sponsors, regulator, client, users and arbitrator to the construction industry. Licensing requirements, financial institution operating rules, safety legislation, building and related codes, serves as a regulatory environment in which the industry operates (Kheni et al., 2008). (Kheni et al., 2008) further stated that have over 55% of all investment on provision of physical facilities which are infrastructures needed for the economic development of the nations. The effect of this is seen in the amount of employment demands met in the developing countries by the construction industry which amount to between 2% to 6% and other subsidiary activities providing an additional 2% to 4%. On the other hand, the figure stands between 6% to 10% and 4% to 6% respectively in developed countries (Okeola, 2009). The wide influence of the construction industry is therefore no pushover in satisfying the physical, social and economic needs of a nation and also has a significant contribution to the attainment of national goals.

Construction projects has great influence on the economy of any nation. Abundance in wealth creation, enhanced standards of living and socio-economic development are the some of the benefits of successful completion of construction projects. Countries are assessed as "developed", "developing" and "underdeveloped" grounded on the number and worth of successful construction projects in their domain (Okeola, 2009). The key role of construction sector in aggregate economy has been widely highlighted in the literature. It is stated that

there is a direct relationship between construction output and national output. It is also pointed out that the construction output grows more rapidly than national output when economy grows and vice versa World Bank (2004). This implies that the construction sector is highly integrated with other sectors of the economy through both backward and forward linkages and strongly linked with many economic activities. These linkages are stems for the sector through which it generate higher multiplier effect in the economy (Aibinu & Jagboro, 2002). So that any change in the construction sector will affect other sectors of the economy and finally impact goes to national income. Hence the construction industry is often considered as an engine of economic growth specifically in developing economies (Aibinu & Jagboro, 2002). The construction industry can activate and successfully consume locally produced material and manpower, maintenance of buildings and infrastructures to motivate local employment and improve economic efficiency (Aibinu & Jagboro, 2002). Construction sector thus has a great impact on socio-economic development of a country and this implies that the performance of the construction industry in terms of its products and activities have significant effects on the life of the nation. Therefore, a need to ensure good performance of construction projects and construction professionals.

3. RESEARCH METHODOLOGY

A random technique was used for the research with construction clients, construction professionals in contracting firms, consulting firms and government establishments as the targeted population. Questionnaires were self-administered to contractors, consultants and professionals in building industry and were analyzed using Statistical Packages for Social Sciences (SPSS). Questionnaires distributed for this research were designed in two sections. Section A contains demographic information of respondents while Section B has four (4) parts, the first part examined the factors that affect the performance of construction projects, the second part looked at the measures of construction project performances, the third part evaluated the indices of economic development while the last part assessed the effect of construction project performances on the economic development of Nigeria. A total number of 200 questionnaires were administered, 164 were returned, and 148 completely filled and fit for analysis. Mean Item Score (MIS) and Standard Deviation (SD) were calculated for each of the factors and the results were used to rank and determine their importance.

4. FINDINGS AND DISCUSSION

From table 1, 87.8% of the respondents are either working in consulting firms, contracting firms or government organizations and also shows that majority of the respondents are contractors.

Table 1. Respondents' Information

Factors	Professions	Frequency	Percent (%)
Type of Organization	Not specified	18	12.2
	Contracting	60	40.5
	Consulting	26	17.6
	Government	44	29.7
	Total	148	100.0
Profession	Quantity Surveyor	28	18.9
	Architect	26	17.6
	Builder	18	12.2
	Civil Engineer	44	29.7
	Contractor	14	9.5

	Client	18	12.2
	Total	148	100.0
Years of Experience	1-5	24	16.2
	6-10	20	13.5
	11-15	22	14.9
	16-20	54	36.5
	21-30	20	13.5
	31-above	8	5.4
	Total	148	100.0

87.8% of the respondents are professionals while the remaining 12.2% are clients of the construction industry. Majority of the respondents have up to twenty years work experience with only a few with higher years of experience. However, all the respondents are certified members of their respective professional body. Analysis of factors affecting construction project performance are highlighted in table 2. Four groups of variables were considered, that is, cost, time, productivity and quality. It could be observed that under cost factor, project design cost was ranked first with MIS of 4.36 and SD of 0.865, followed by cost of rework which was ranked second, waste rate of materials was ranked third while profit rate of project and cost of variation order was ranked fourth and fifth respectively. It can also be deduced from the table that project complexity was ranked first under productivity factor, sequencing of work according to schedule was ranked second while management-labour relationship was ranked third and number of new projects/year was ranked fourth.

Table 2. Factors Affecting Construction Project Performance

Factors	Mean score	Standard Deviation	Rank
Cost Factors			
Project design cost	4.36	0.865	1
Cost of rework	4.12	0.581	2
Waste rate of materials	3.87	0.492	3
Profit rate of project	3.72	0.513	4
Cost of variation order	3.39	0.554	5
Productivity Factors			
Project Complexity	4.31	0.480	1
Sequencing of work according to schedule	3.66	0.404	2
Management-Labour relationship	3.24	0.436	3
Number of new projects per year	2.91	0.567	4
Time Factors			
Unavailability of Resources	4.78	0.398	1
Average delay in regular payment	4.04	0.428	2
Time needed to rectify defects	3.75	0.555	3
Planned time for construction	3.52	0.402	4
Quality Factors			
Quality of equipment and raw materials	4.88	0.258	1
Unavailability of competent staffs	4.57	0.338	2
Conformance to specification	1.81	0.512	3
Quality assessment system in organization	1.48	0.448	4

However, under time factor, unavailability of resources was ranked first as the factor affecting time performance of projects while average delay in regular payment was ranked second, time needed to rectify defects was ranked third and planned time for construction was ranked fourth by the respondents while quality of equipment and raw materials was ranked first while unavailability of competent staffs was ranked second, conformance to specifications was ranked third and quality assessment system in organization was ranked fourth by the respondents under quality factor. It can be generally deduced therefore that quality of equipment and raw materials, lack of competent staffs, delay in payment of workers, project complexity and project design cost are the most important factors affecting construction project performance.

As obtained in table 3, on-time completion was ranked first as the main measure of construction project performance with MIS score of 4.23 and SD of 0.963 while client satisfaction was ranked second followed by productivity which was ranked third. Cost was ranked fourth and resources management was ranked as the least factor to measure construction performance.

Table 3. Measures of Construction Project Performances

Factors	Mean score	Standard Deviation	Rank
On-time completion	4.23	0.963	1
Client satisfaction	3.94	0.642	2
Productivity	3.72	0.749	3
Cost	3.53	1.070	4
Resources management	3.22	0.652	5

It can be deduced from table 4 that improvement in technology is the most important indices of economic development, extension of infrastructure was ranked second with MIS value of 4.44 and SD of 0.608 while increase in employment opportunities was ranked third. Government expenditure was ranked fourth, urbanization was ranked fifth while utilization of natural resources was ranked sixth. Increase in export of finished goods was ranked seventh, trade diversification was ranked eighth while Increase in entrepreneurship and human rights were ranked ninth and tenth respectively.

Table 4. Indices of Economic Development

Factors	Mean score	Standard Deviation	Rank
Improvement in technology	4.72	0.829	1
Extension of infrastructures	4.44	0.608	2
Increase in employment opportunities	4.13	0.663	3
Government expenditure	3.86	0.551	4
Urbanization	3.38	0.289	5
Utilization of natural resources	3.03	0.755	6
Increase in export of finished goods	2.88	0.597	7
Trade diversification	2.82	0.472	8
Increase in entrepreneurship	2.44	0.618	9
Human rights	2.14	0.330	10

Table 5 shows the effect of performance of construction projects on economic development of Nigeria and it could be revealed that improvement in technology was ranked

first with MIS of 4.2 and SD of 9.57, extension of infrastructure was ranked second while increase in employment opportunities was ranked third. Urbanization was ranked fifth while utilization of natural resources was ranked sixth. Government expenditure was ranked seventh, while trade diversification and increase in entrepreneur were ranked eighth and ninth respectively.

In cost performance factors, it can be concluded that project design cost is actually the most effective factor that affect cost performance of projects, followed by cost of rework and waste rate of materials. The result obtained contradicts with what was observed by Aibinu and Odeyinka (2007) that waste rate of materials is one of the most essential elements to be considered by contractors when achieving cost performance. Also, Yasamis et al. (2002) obtained that cost of rework is the main factor that affects cost performance. In productivity performance factors, it is believed with the information given that project complexity has greater influence on the project performance, followed by sequencing of work according to schedule, management-labour relationship and number of new projects per year. The result align with Shen and Tam (2002), as project complexity affects the productivity performance of construction projects. The results from time factor shows that unavailability of resources was considered by the professionals to be the actual factor that affects time performance. The result is along the lines of that of Koushki, Al-Rashid and Kartam (2005) that unavailability of resources has direct effects on project performance most especially time. The results gotten for quality factor indicates that quality of equipment and raw materials is the major factor affecting quality factor of a project, followed unavailability of competent staff while conformance to specification and quality assessment system in organization was considered as the least of the factors affecting quality performance of a project.

Table 5. Effect of Construction Project Performance on Economic Development

Factors	Mean score	Standard Deviation	Rank
Improvement in technology	4.42	0.957	1
Extension of infrastructures	4.33	0.829	2
Increase in employment opportunities	3.81	0.656	3
Increase in export of finished goods	3.54	1.007	4
Urbanization	3.38	0.453	5
Utilization of natural resources	3.70	0.718	6
Government expenditure	3.29	0.968	7
Trade diversification	2.51	0.812	8
Increase in entrepreneur	2.22	0.638	9

From the above discussion, it can be deduced that on-time completion is the major measure to ascertain the level of performance of a construction project. This result agrees with Chan and Kumaraswamy (2002) that on-time completion if very important in measuring construction project performance. It was further stated that measurement of construction project performance can be made in the direction of speed of construction, construction time and time overrun. However, improvement in technology is the actual factor used in measuring the economic development of Nigeria. This result is in line with Aibinu and Jagboro (2002) while (Aibinu & Odeyinka (2006) obtained that Infrastructure is basic essential services that should be put in place to enable development to occur. In addition, effective construction projects brings about extension of infrastructure, improvement in technology, increase in employment opportunities and urbanization, and all these enhance rapid growth in economic development of a country.

5. CONCLUSION AND RECOMMENDATION

Ensuring good performance in construction projects involves all participating people and parties to be fully aware of their individual roles on the project. It stems down from how the clients is assured of what the intentions and goals are and effectively communicating the specific roles to the professionals, the designer whom will in turn, accurately represent it and on to the contractor whom will work with the available information and faithfully reproduce the requirement on the project site. However, to achieve good project performance practice and project effectiveness, all persons concerned must be fully involved and should not be limited to some specific persons. Also, the effective involvement of enforcement by government agency, regulatory bodies must be ensured. Without adequate effective enforcement by government agency and/or regulatory bodies and availability of proof of contractors' credentials for competence assurance capability to the client before awarding the contract, there will be a continued gap between the level of awareness and the performance of construction projects in the country which will definitely affect the economic development of the country. The outcome of this study is of great relevance to the construction industry. The study reveals that the bulk of the responsibility revolves between the owner of the project and the participating professionals in the construction project. Both needs to cooperate with the other to ensure the attainment of the same goal as their roles are inter-dependent. From the manufacturer of the building components to the contractors, consultants, and clients, the cooperation and working together of the parties involved would ensure that the desired performance of the project is attained.

It is recommended that human resources in the construction industry be improved through appropriate and unceasing training programs to enhance construction projects performance. By so doing, the workforce can be updated with increased knowledge and improve their familiarity with emerging and more effective project management processes and techniques. There is a hierarchy of relative importance concerning elements required for measuring construction project performances, all these elements have to be fully integrated by Nigerian professionals for effective project performance. Good governance remains an important national asset, its high time Nigerian government start practicing good corporate governance in order to achieve all the factors considered to be the indices of economic development. This study is useful not only for government agencies and parastatals concerned with physical development of the country but other participants in the construction industry. These include contractors, professionals, regulatory bodies and other stakeholders with indirect link to construction activities It is time Nigerian construction industry becomes a force worthy of reckoning on the international stage. In view of this, it is recommended that government should put all the identified factors and indices into consideration, most especially improvement in technology, extension of infrastructure, increase in employment opportunities as well as government expenditure and urbanization, as these are the main factors considered to enhance economic development of the country.

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CHALLENGES TO RETROFITTING AND ADAPTATION OF EXISTING BUILDING WITHIN THE MAJOR CENTRAL BUSINESS DISTRICT IN GHANA

Kissi ERNEST¹, Emmanuel Nsiah ANKOMAH², Callistus TENGAN³, Richard Oduro ASAMOAH⁴

^{1,4}Building and Road Research Institute, P. O. Box 40, Kumasi-Ghana PH (+233) 243989661, Email: kiserneest@yahoo.com

²Sunyani Technical University, P.O. Box 206, Sunyani-Ghana

³ Department of Building Technology, Bolgatanga Polytechnic, P. O. Box 767, Bolgatanga-Ghana, PH (+233) 208248998, Email: callyclarke@gmail.com

ABSTRACT

Adaptation and retrofitting of existing buildings in recent times has gained increasing recognition as an acceptable alternative to new buildings. The aim of this study was to identify the challenges to retrofitting and adaptation of existing buildings within the major central business district in Ghana. Questionnaires were distributed to clients, contractors and construction consultants within Accra, Kumasi and Sekondi-Takoradi Central Business Districts. Out of the 300 questionnaires administered, 55% of responsive rate was achieved. Data generated from the survey was analysed using mean score ranking to determine the level of severity regarding its significance. The high cost of adaptation and retrofitting process, poor maintenance culture of building owners, health and safety requirements during retrofitting, building tenants' resistance to disruptive processes, inadequate government legislation among others were identified as some challenges to retrofitting and adaptation of existing buildings. It was therefore suggested that policy makers and practitioners should put in place measures for curbing such occurrences.

Keywords: Retrofitting, adaptation, challenges, Central Business Districts (CBDs), existing buildings

1. INTRODUCTION

Nature and structural buildings are increasingly becoming ineffective without the required comfort. Thus, if effective measures are not put in place to achieve the needed comfort, it will lead to inhabitable buildings. Simply put it, such building become unexciting for human accommodation. Building obsolescence then becomes the next trigger event (Wilkinson, 2011). Building obsolescence is the subject of

much research (Baum 1991). This happens when building has no utility whatsoever and demolition remains the only viable option. Notwithstanding, sustainable approaches are meant to create a healthy built environment using resource-efficient and ecologically-based principles (Bullen 2007). Based on this concept of sustainable construction, Wilkinson (2011), also reported on the four cardinal parameters namely: social sustainability, economic sustainability, technical sustainability and biophysical sustainability. Demolish as the only remaining viable option does not hold in terms of sustainable construction. Hence, obsolescence distressing any building at any time during its lifecycle can trigger an opportunity for retrofitting and adaptation. One way of deferring obsolescence in buildings is to adapt them either through a change of use or within the existing use (Kincaid 2002). Adaptation is also considered to be an effective strategy to improve the sustainability of existing facilities (Kohler, 1999; Kohler and Hassler, 2002; Douglas, 2002). One method of reducing mankind's environmental impact is to adapt existing buildings rather than default to demolition and rebuild. Global warming is a severe and pressing issue. Building retrofitting remains one of the most realistic approaches to reduce the present energy demand in existing buildings (Wang et al. 2012). There is now an irresistible body of scientific evidence that human activity is causing global warming, with the main sources of greenhouse gases (Stern, 2006). Facing global environmental issues such as declining resources and climate change, it is essential to greatly reduce the energy demand of these buildings, for example by retrofitting a better insulation (Jansson, 2013). Building retrofit programs can provide substantial benefits to both service providers and customers.

Arguably, most existing literature show adaptation and retrofitting as western concepts for green agenda of climate change adaptation and retrofitting (Tienda and Osei-Mensah, 1981). It suffices to mention here that, in Ghana, as developing country; building adaptation and retrofitting is akin to building transformation/extensions (Adarkwa, 2012; Oppong and Brown, 2012; Adarkwa and Oppong, 2005) with little or zero emphasis on retrofitting. In the developed world, adaptation and retrofitting places emphasis on green agenda. Apparently, Ghana, as a developing country with serious energy challenges, retrofits and adapt existing building just to gain more space for commoditization (Adom and Bekoe, 2012; Perez-Fortes et al., 2012). Building construction and its associated operations have extensive direct and indirect impact on our society. Miller and Buy (2011) stated that buildings could account for approximately half of all annual energy and greenhouse gas emission and

this has become one of the major targeted areas in addressing climate change. However, there is also a strong view that dense cities are essential component in man-kinds attempt to mitigate the effect of global warming. Furthermore, most of our urban buildings are constructed without the consideration for sustainability (Wilkinson, 2012). Demolishing is often selected when the life expectancy of an existing building is estimated to be less than a new alternative, despite any improvements that adaptation may present (Douglass, 2002). Buildings are demolished because they no longer have any value (Kohler and Yang, 2007).

1.2. Why Central Business Districts?

Globally, Central Business Districts (CBDs) have been seen as the most populated regions in the urban development with intense activities especially in developing countries (Yaguang, 2011; Amoako et al.,2013). This area serves as an immerse contributor for various social, economic and institution activities. According to Amoako et al. (2013), it represents the heart of the urban area, which performs major economic activities that sustain the urban environment regarding employment and income generation. Amoako et al. (2013) further argued that in the middle of 20th century its development expanded to include office space, banking, shopping malls and government institutions. However, in recent times, CBDs have become cosmopolitan areas with diverse activities including commercial, retail, educational, entertainment, financial, local governance, political, health, tourism, civil and cultural purposes. Also, due to the amalgamation of gentrification and redevelopment CBDs have now been developed to include residential facilities. Similarly, CBDs within Ghana have seen massive redevelopment and change of the use of the various infrastructure which existed since independence. These developments are still on-going, and developers anticipate it will not end soon. Such redevelopment consists of retrofitting and adaptation of existing buildings within CBDs. Due to the nature and developmental anticipation of urban planners, there are a number of challenges faced by the authorities in undertaking such works. Therefore, the aim of the paper was to identify the challenges to retrofitting and adaptation of existing buildings within CBDs in Ghana. In view of that, the three (3) busiest cities (Accra, Kumasi, Takoradi) were chosen for the study. In the selection of the case cities, the study also considered the high rate of retrofitting and adaptation in these CBDs. (see Figure 1 for the map of these areas).

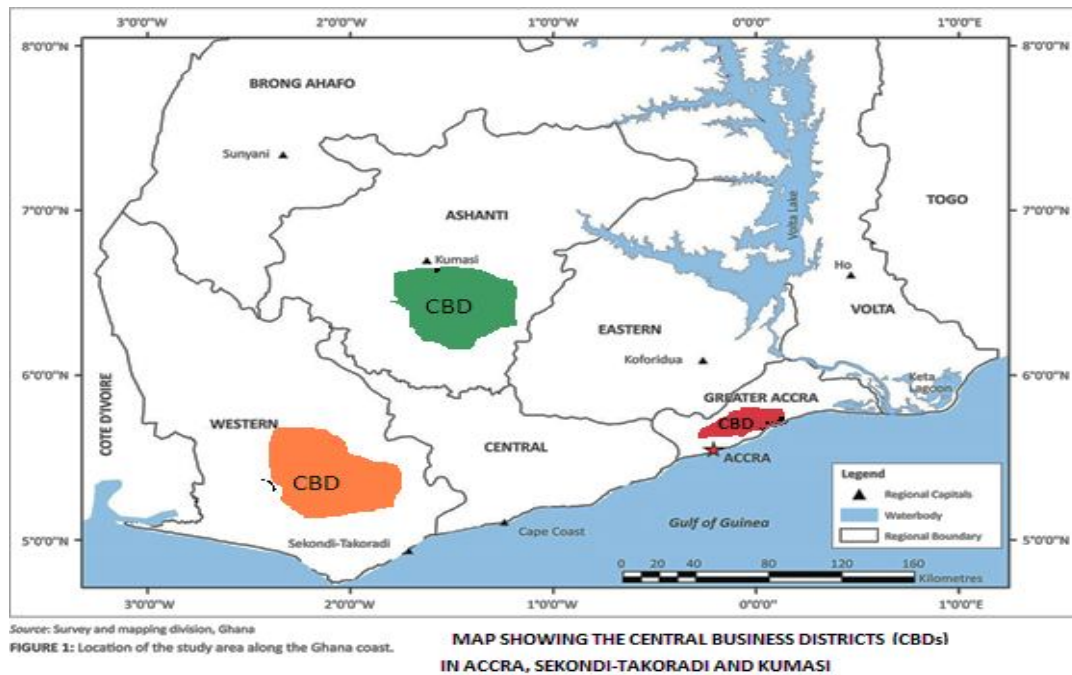


Figure 1: Map of three major cities

1.2.1.1. Accra Central Business District

The Accra Central Business District resembles the European development due to colonisation. The central business district of Accra contains the city's main banks and departmental stores, and an area known as the Ministries, where government business is concentrated. After independence, the Accra CBD has seen massive expansion and remains busiest in Ghana. According to United Nations Centre for Human Settlements (1999) and Grant and Yankson (2003), the rate of urbanisation makes it one of the fastest-growing cities in West Africa. As a result, the area is congested with various activities including buying and selling, hawking, waste among others (Broadbent,2012), it remains one of the chaotic city in sub-Sharan Africa. Furthermore, there is an increasing urbanisation and rapid population growth in urban Accra, and as a result, there is considerable pressure on the limited infrastructure. This pressure has led to redevelopment of Accra CBD to contain such volume of population demand for more spaces. Also, technological and climate change has rendered most of the existing buildings not able to cope with current societal needs. It is, therefore, worth noting that there is a need for drastic changes in the CBDs, to accommodate various environmental, economical and societal demand through retrofitting and adaptation of the existing buildings (see Figure 1 and 2).



Figure 2 : Old-Then



Figure 3: New- Now

1.2.2. Takoradi Central Business District

The Takoradi Central Business District is located on the south-western of Ghana, about 242km west of Accra, the capital city. It is also approximately 280 kilometres from the La Cote d'Ivoire border to the west. The Metropolis is bordered to the west by Ahanta West District, to the north by Mpohor Wassa East District, to the east by Shama District and the South by the Gulf of Guinea. Similar to Accra Central Business District, it is faced with congested, high rate of population growth due to the discovery of oil in commercial quantities, it is one fastest growing Central Business Areas within Ghana (Composite Budget, 2012). A walk through, the CBD comes with a lot of difficulties as all spaces have been occupied with intense trading activities (Figure 4 and Figure 5). House owners, in seeing such development are currently modifying their existing buildings to accommodate the much-needed facilities such as banking halls, office space, educational and health facilities. These developments which is termed as retrofitting and adaptation has come with challenges which the paper seeks to identify.



Figure 4: Old-then

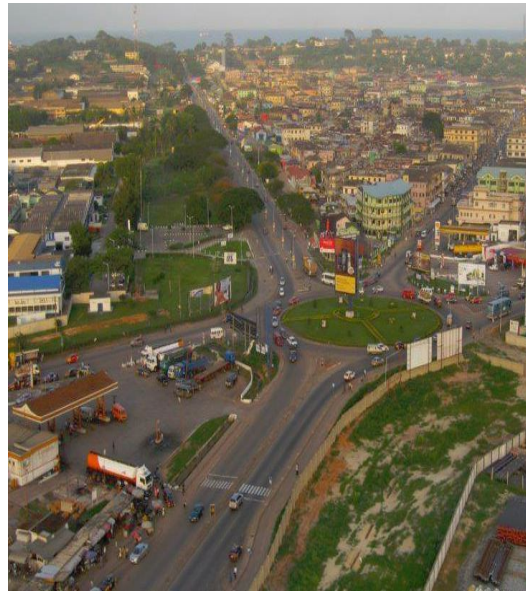


Figure 5: New-now

1.2.3. Kumasi Central Business District

Kumasi central business district has existed over the years traceable from the colonial days. Due to its economic activities, there has been rapid development everywhere in the district. According to Adarkwah and Oppong (2004), the area is mixed with various properties with majority of them being shops, offices and mixed commercial and residential development. They further reiterated that the area had seen major development including remodelling, renovation or refurbishment of the old structures to fit modern purposes. The Central Business District (CBD) of Kumasi is made up of Adum, Central market and Kejetia. Adum is approximately made up of about 75% stores, 15% offices and 10% residential Central Market, on the other hand, it's made up of 80% table top stores and 20% stores. Kejetia is made up of 60% commercial parking area/commercial vehicles, 30% stores, 5% offices and 5% residential. Kumasi is strategically located in relation to the whole of Ghana. All major roads and rail lines run through Kumasi, making the city a commercial nerve centre and the second most important city in Ghana. The strategic location of the central business district of Kumasi attracts a lot of buying and selling activities from all over the country (Togbi, 2008). According to Afram and Olympio (2009), there is a myriad of problems which are progressively impinging on the proper workings, growth and sustainability of such a vital resource. These problems include congestion of both, human and vehicular traffic, inadequate sanitary facilities, poor

refuse management, swarms of ubiquitous hawkers, lack of parking spaces.



Figure 6: Old-then



Figure 7: New-now

2. PREVIOUS STUDIES ON RETROFITTING AND ADAPTATION

Retrofitting existing buildings for sustainability is more challenging, however, than designing a new sustainable building from scratch" (Miller & Buys, 2011). Retrofitting for Sustainability is typically viewed as expensive and disruptive process, also building owners are often suspicious about design challenges and cost. In view of that, building users also show resistance to change and the disruptive process (Miller & Buys, 2011). Conventional upgrading or retrofitting techniques which usually includes the addition of existing walls, foundations and strengthening of frames often leads to costly consequences such as heavy demolishing, lengthy construction time and occupant relocation. Such costly, environmentally hostile and intrusive approach associated with these conventional processes usually deters building owners from retrofitting their buildings (Cheung et al., 2000). Dixon et al. (2014) stated that, in the UK, the most important barrier or challenge to retrofitting is related to economic factors, organisational issues (where retrofit project may be competing for funds) and lease structure. Concerning funding as challenge to retrofitting, Nishita and Pynoos (2006) cited in Oppong and Masahudu, (2014) added

that legislation, programming and funding have been hindering the retrofitting of existing buildings. The authors further emphasised that, most often, the legislation that supports the retrofitting has been slow to evolve and it is usually limited to large buildings. Internationally, many government agencies and private organisations are mandating the integration of Environmentally Sustainable Development (ESD) principles in commercial buildings and enforcing sustainability benchmarks for buildings (Madew, 2003). Yet Miller & Buys, (2011) argued that, while it is relatively easy to incorporate sustainability into new buildings, retrofitting existing buildings for sustainability is much more difficult. The retrofitting of existing buildings often requires an appreciation for the technical, economic and social aspect of the issue at hand. The changes in construction technologies and innovation in retrofitting technologies in our present day have added a number of challenges. This is especially so when engineers have to select or develop a technical and socio-economic acceptable solution (Cheung et al., 2000). In the process of designing or developing retrofitting techniques, engineers are required to comply with the building codes. These techniques that are being adopted must also fulfil the minimum requirement of the building code, such as detailing, strengthening among others (Shrestha et al., 2000). Notwithstanding this, Shipley et al. (2006) argued that developers often complain about the inflexibility of the building codes and other regulations in requirement for building retrofitting.

It was identified by Manu (2012), cited in Danso et al. (2015) that, demolition and refurbishment are often associated with a higher risk than new buildings, and given that health and safety control measures must commensurate with the risk associated with the project. It is now without doubt that the health and safety measures that are needed for the adaptation and retrofitting of existing buildings must reflect the kind of risk that workers are likely to be exposed to. Thus, adaptation and retrofitting will need some extra force of health and safety defence in the form of measures and guidance to deal with the inherent health and safety issues. The challenge of the location of existing buildings to retrofitting is argued by (Wilkinson, 2012) that "whether a building is detached or attached affects the ease off or desirability for retrofit". Thus, buildings with less attachment help contractors work faster and cause less disruption to users. Table 1 presents the summary of the challenges.

Table 1: Challenges of adaptation and retrofitting of existing buildings

Challenges	References
High cost of adaptation and retrofitting process	Miller & Buys (2011)
Building user's resistance to disruptive processes	Miller & Buys (2011); Cheung et al., 2000
Lack of funding	Dixon (2014). Oppong & Masahudu (2014).
Inadequate legislation	Oppong & Masahudu (2014)
The difficulty in incorporating new technologies into existing buildings	Miller & Buys, (2011)
The demand for full compliance with building codes and regulations	Shrestha et al.(2000)
Health and safety requirements during retrofitting process.	Danso et al.(2015).
The location of building and its adjoining features	Wilkinson, (2012).

3. METHODOLOGY

The research adopted a mixed methodology approach. Thus, qualitative and quantitative paradigms were the underpinning philosophies considered. The qualitative approach involved the use of semi-structured questions among top industry players including contractors, consultants and clients. The reason for the use of the semi-structured interview was to triangulate literature review findings in order to improve and expand the depth of the results. This was done by elaborating and exploring the experience of the practitioners in relation to the phenomena under consideration. This helped in achieving variables that were peculiar to conditions about these central business districts. The second stage considered quantitative technique which involved the collection of primary data based on the twelve (12) identified variables in the previous stage. The sample for the data collection consisted of clients, contractors and consultants thus, representing the population of people who were associated with such developments. The questionnaire utilised closed-ended questions to explore challenges of retrofitting and adaptation. This was done by measuring respondents' perceptions on the level of severity using a Likert items, where: 1 = lowest (challenge); 2 = low; 3 = high; 4 = higher; and 5 = highest. Thus, the numerical representation, statistical analysis and subjective were the underlying individuals' perceptions.

3.1. Sample Size and Sampling Technique

The semi-structured interview was administered to ten (10) top industry players who have had not less than five-years practical experience on adaptation and retrofitting projects. The second section involved the use of closed-ended questions, which were also administered to three-hundred (300) professionals involving contractors, consultants and clients who have been involved or were doing such projects within the central business districts. Respondents had enough working experiences as more than half of the total sample size have more than five years. Added to their experience is their level of education, as majority had a Bachelor of Science and Higher National Diploma degrees in building technology. These questionnaires were administered using purposive snowballing sampling technique, which helped in reaching professionals who have an in-depth understanding on retrofitting and adaption, and those who were far from been reached. Out of the 300 questionnaires administered, 166 were retrieved with a valid response rate of 55%.

3.2. Data Analysis

The survey was conducted to identify the challenges to retrofitting and adaptation of existing buildings based on respondents' opinion. The results were then analysed using mean score ranking to determine the significant levels based on obtained means of various variables relative to one another. This method has been widely used in the construction management studies (Chan & Kumaraswamy, 1996; Fugar and Agyakwah-Baah, 2010; Ameyaw, 2014; Kissi et al.,2016). In establishing the relevance, the variables were ranked based on the obtained mean, however, when two or more variables scored the same mean, the highest ranking is assigned to the one with least standard deviation (see Table 2). Similarly, the significance level was set at 95% in accordance with orthodox risk levels.

Table 2: Mean score ranking of the challenges

Challenges	Mean	Std. Deviation	Ranking
<i>Building owners' refusal to adhere to planning regulations</i>	3.58	.986	1
<i>Poor maintenance culture of building owners</i>	3.49	1.169	2
<i>Lack of funding</i>	3.39	1.025	3

<i>High cost of adaptation and retrofitting</i>	3.29	1.056	4
<i>Lack of resources</i>	3.24	1.068	5
<i>Inadequate government legislation</i>	3.24	1.171	6
<i>Demand for full compliance with building codes and regulations</i>	2.95	.952	7
<i>The difficulties of incorporating new technologies into existing buildings</i>	2.89	1.194	8
<i>How to develop economically and socially accepted techniques in the process of retrofitting</i>	2.87	1.010	9
<i>Location of the existing building and adjoining features</i>	2.86	1.005	10
<i>Building tenants" resistance to disruptive processes</i>	2.84	.923	11
<i>Health and safety requirements during retrofitting</i>	2.66	.976	12

4. DISCUSSION

4.1. *High cost of adaptation and retrofitting process*

The financial implication of adaptation and retrofitting existing buildings was a key driving force affecting the decision to undertake such works. Respondents agreed that a high-performance standard relates to a higher cost. It was deduced from the interviews that buildings were normally not built to standard due to the poverty levels in developing countries such as Ghana. This meant that it involves a higher cost in adapting and retrofitting existing buildings to standards. Findings from the interviews showed that a high cost of adaptation and retrofitting an existing building is a significant impediment affecting owners' decisions. One of the participant's interviewed stated that

“The direct and indirect cost involved is huge. I don't think I will ever undertake such works. Aside from the direct cost of doing the works, there is also an added cost of losing business money due to the disruptions during the adaptation and retrofitting process”.

This view was also shared by the professionals, that the huge cost deters owners from undertaking such a process. This they argued was also partly due to the cost variations that normally occur with such works. This assertion is in line with Bradley et al. (2008) who argued that the cost variation largely depends on a number of factors such as the type of structure, where it is located, characteristics of the building, desired performance level and other works triggered by retrofit decisions.

4.2. Poor maintenance culture of building owners

From the findings of the study across the cases, it was realised that generally maintenance culture within the Ghanaian society is poor. This relates to Obeng-Odoom and Amedzro (2011) work, which states that the problem of maintenance management practices plagues Africa as a whole "African Poor Maintenance Culture". In a discussion on BBC in the year 2006 titled "Is Africa's architecture dying? The participants argued that the problem with Africa was not its architecture but its poor maintenance practice (BBC 2006 cited in Obeng-Odoom and Amedzro 2011). This poor maintenance culture poses a huge challenge to adaptation and retrofitting of existing buildings as it leads to a higher cost of undertaking the works. The poor maintenance culture also triggers other works not originally planned for in the process. One of the consultants interviewed argued that,

“Maintenance is not something that owners are too keen on. Owners would want to defer maintenance to the future as long as the facility can still be used. Once the building is put up there is no plan for maintenance works. At some point in time, it leads to obsolesce, and the only feasible option will be to demolish and build new facilities”.

This corroborates Douglass (2002) who asserts that demolishing is often selected when the life expectancy of an existing building is estimated to be less than a new alternative despite any improvements that adaptation may bring about. Buildings are eventually demolished because they no longer have any value (Kohler and Yang, 2007).

4.3. Health and safety requirements during retrofitting

Health and Safety remains one of the rampant issues that has bedeviled the construction industry in general not to talk about retrofitting and adaptation. According to ILO (2001) casualties in the construction industry has led to devastating effect on health and safety issues in both developed and developing countries. In Ghana Kheni et al. (2010) argued that the construction industry is highly labour intensive with majority of its site workers being illiterates with low skills. It is, therefore, interesting to note that retrofitting and adaptation are labour intensive, where health and safety requirement must be adhered to. On the contrast, practitioners find it difficult to adhere to such practices when it comes to such activities due to unpredictable nature of retrofitting and adaptation of existing buildings. Health and safety practices in adaptation and retrofitting as opposed to

traditional practices is quite different, hence, a more concerted effort need to be put in place to achieve accident-free working environment.

4.4. Building tenants' resistance to disruptive processes

Occasional resistance to change remains a bane in retrofitting and adaptation practices, which has been acknowledged by Miller and Buys (2011) in developed countries and more acute in developing countries. Building tenants in anticipation of remaining in their rented apartment, resist furiously any attempts in looking for new place. This is as a result of stress and time to be wasted in searching for a new place. In addition, building owners' in their quest to develop the old facilities refuse to pay the needed compensation, which could afford tenants the opportunity to acquire a new place. In some cases, tenants who choose to stay in the facility while the process of retrofitting is on-going tend either to disrupt the process through pilfering, physically assaulting workers, insulting among others.

4.5. Inadequate government legislation

Building Regulations (BR) in Ghanaian building industry do not work. Even though the BR are established legislation, they are not thoroughly implemented and authorities sit unconcerned. Compounding this problem is the fact that a careful scrutiny of various building legislations shows shortfalls in regulations on adaptation and retrofitting of existing buildings (Oppong & Masahudu, 2014). Due to this, city authorities use arbitrary rules in dealing with such occurrence. There is growing awareness of the retrofitting and adaptation. it will therefore be necessary for city authorities to inculcate the general accepted regulations of retrofitting and adaptation practices in terms of the safety and environmental practices.

5. CONCLUSION

The study has presented issues associated with challenges of retrofitting and adaptation of existing buildings within the three major cities in Ghana; that is Accra, Kumasi and Takoradi central business district. This study presents current phenomena of the development within these areas due to several factors such as population growth, urbanisation among others. This has therefore triggered change or adaptation to various facilities which include the modification, maintenance, refurbishment and renovation among others. Such redevelopment of infrastructure at the central business district leaves much to be desired as practitioners are faced with

various challenges. This study has therefore brought to the fore various challenges including high cost of adaptation and retrofitting process, poor maintenance culture of building owners, health and safety requirements during retrofitting, building tenants' resistance to disruptive processes, inadequate government legislation among others. The implication of the findings is that practitioners and researchers should develop effective medium in dealing with the identified challenges. Policy makers are also advised to take cognizance of these new developments in implementing laws and regulations that will ensure effective administration of such developments.

Acknowledgement: Sincere gratitude goes to Ansoh Rafiq Adam, Ahadzi Dotse and Mouazzen Mohammed for helping with the data collection during their undergraduate project reports.

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**IMPROVING THE BUSINESS TRAJECTORY AMONG SMALL AND MEDIUM SIZE
CONSTRUCTION FIRMS IN SOUTH AFRICA**

L WENTZEL¹, JJ SMALLWOOD² and FA EMUZE³

¹Ph.D Candidate, Department of Construction Management, Nelson Mandela Metropolitan University, Port Elizabeth, South Africa, 6031, PH (+27) 0-41-504-2790, Email: wentzell@cput.ac.za

²Professor, Department of Construction Management, Nelson Mandela Metropolitan University, Port Elizabeth, South Africa, 6031, PH (+27) 0-41-504-2790, Email: John.Smallwood@nmmu.ac.za

³Associate Professor, Department of Built Environment, Central University of Technology, Free State, South Africa, 9300, PH (+27) 0-51- 507-3089, Email: femuze@cut.ac.za

ABSTRACT

The Construction Industry Development Board (cidb) register of contractors shows that small and medium sized enterprises (SMEs) outnumber established firms in South Africa. However, the failure rate of SME businesses, which has increased in recent years, constitutes a source of concern in the industry. This situation is reflected in the limited number of successful construction SMEs as a percentage of the total registered firms in the industry. The research design for the study reported on entailed semi-structured and unstructured interviews, which were conducted over an extensive period of time to gather sufficient information from the research participants. However, the preliminary findings that form the nexus of this paper are based on the reviewed literature, and a pilot study that was conducted among a purposive sample of construction SMEs - Grades 1 to 5 on the cidb register. It is notable that the initial findings suggest that construction SMEs often encounter difficulty in securing projects, fail to realise core organisational objectives and goals, and are unable to gain cost advantages over their immediate rivals, which affects their business performance. Thus it appears that more effort is required to improve the business performance of construction SMEs in South Africa.

Keywords: Construction Industry, Historically Disadvantaged Individuals (HDIs), Small and Medium Size Enterprises (SMEs), South Africa

1. INTRODUCTION

It can be observed that the South African construction industry is in the process of transformation (Martin, 2010). The requirement for this transformation stems from the need to address the effects of apartheid (Martin, 2010). Since 1994, South Africa has been re-integrated into the international market, and has been positioning itself to realise the high expectations of its populace regarding a successful transition towards a more democratic society (Berry *et al.*,

2002). Berry *et al.* (2002) further posit that to achieve the objectives of economic growth and employment generation and income redistribution, SMEs must be actively promoted in South Africa.

SMEs encompass a broad range of firms, from established traditional family businesses that employ over a hundred people (medium-sized enterprises), to survivalist self-employed from the poorest layers of the population (Berry *et al.*, 2002). According to Shakantu (2012), there are several difficulties related to attempts to define a SME business enterprise. The yardstick for delineating enterprises by size is usually one or more of the following: total number of employees; value of fixed assets; paid-up capital; annual turnover, and annual volume of physical production. The nature of activity determines the viable and normal economic operating size. Therefore, there is no single definition.

Ofori, Ali Lin and Tjandra (2012) mention that the development and growth of construction businesses within the lower grades of the cidb is a fundamental element for all countries as a strong SME base has the capacity to produce quality infrastructure. However, in South African construction, SMEs are repeatedly experiencing certain difficulties that are not limited to lack of capital due to difficulty in accessing finance, and lack of experience; but more so the lack of general business and management training and exposure to achieve business sustainability in their market share (Murray and Appiah-Baiden, 2002). Many authors have stated the reasoning behind business failure among construction SMEs. With this failure, a number of proposed solutions have been identified. However, a gap and area which has not been adequately acknowledged is construction management. Construction Management can be viewed in two dimensions, the management of the business of construction, and of projects per se. Construction management lends itself as a mechanism to improve business performance and management among construction SMEs. Currently the concept of construction management is not clearly understood and therefore not well established amongst construction SMEs within the South African construction industry. Given the fact that the failure rate among construction SMEs is significant, there is a need to address this problem by providing a clear theoretical understanding of their competency levels with regards to the basic constructs and related concepts of construction management, as well as its application amongst construction SME businesses.

2. LITERATURE REVIEW

2.1 The importance of SMEs

According to Fan (2003), SMEs are the engine of growth in every economy. They are deemed as essential for a competitive and efficient market and are critical in the reduction of poverty. In terms of economic growth, Fan (2003) posits that the SME sector is the largest provider of employment in most countries, especially in the creation of new jobs. They are recognised as a major source of technological innovation and new products. United Nations Centre for Human Settlements (UNCHS) (1996) cited by Shakantu (2012) reports that SMEs constitute 91-93% of industrial enterprises in the South East and East Asian countries of Malaysia, Singapore, Taiwan, and Thailand.

In addition, Fan (2003) mentions that in Russia and some parts of Europe, SMEs that employ up to 250 employees, account for approximately 90% of the total number of firms that provide 45% of the total employment and generate 40% of the total sales. Fan (2003) further states that SMEs tend to employ poor and low-income workers, which are located within poor regions and rural areas where self-employment is the only source of income for many. It is therefore suggested that SMEs are important role players to almost all economies in the world, but especially to developing countries where poverty is most severe (Fan, 2003).

2.2 The importance of construction SMEs in South Africa

The role of construction SMEs is considered to be equally important to the economy as that of SMEs in general. Shakantu (2012) mentions that construction SMEs form a crucial component of a government's strategies to create employment opportunities, and foster economic growth and national development. These SMEs provide a vehicle through which most of the under-privileged, who lack financial resources and skills, can typically gain access to economic opportunities. In addition, it is mentioned that construction SMEs are the potential engines of wealth creation, value reorientation, job creation, and poverty eradication (Shakantu, 2012). This is particularly crucial for South Africa that is characterised by the legacy of big business dominance and huge unequal distribution of wealth.

2.3 The challenges facing construction SMEs in South Africa

The existence of a vibrant small business sector often indicates the presence of an entrepreneurial spirit and an economically healthy society. Although facing many structural difficulties, the small business sector is a significant contributor to the South African economy. According to the Department of Trade and Industry (2003), small businesses represent 98% of the total number of firms in South Africa. They employ 55% of the country's labour force and contribute 35% towards the GDP of South Africa. They also contribute more than 40% of the GDP in four of the eight major economic sectors; construction being one of them. These are good figures in terms of SME involvement, but sadly, it was revealed that 40% of these SMEs who start new business ventures fail in the first year, 60% in their second year, and 90% in their first ten years of existence (Van Scheers, 2011). These figures speak not only to SMEs in general, but also to construction SMEs that form part of this business sector. However, the cidb and Construction Education Training Authority (CETA) estimate that 70% of construction SMEs fail in their first year of existence (Martin, 2010).

The challenges that contribute to the high business failure rate among construction SMEs are many and varied, and impact significantly on their development and sustainability. According to Barron (2000), one of the major challenges that most construction SMEs experience is that they generate good ideas and are generally competent in the physical work they deliver, but unfortunately "they do not have a clue on how to run a business and have no underlying appreciation of business fundamentals." Chilipunde (2010), in addition to Hormozi, Sutton, McMinn and Lucio (2002), observe that poor strategic leadership and insufficient control of essential aspects of financial management constitute the key issues behind their business decline and eventual failure. Ranjit, Mwanaumo and Nkado (2011), as well as Pansiri and Temtime (2006), also identify deficiencies in managerial skills and business knowledge among construction SMEs in South Africa. Brink and Cant (2003) further mention that business

problems experienced by construction SMEs can be categorised based on their origin in the external and internal environment. Within the external environment, construction SMEs are faced with problems such as the state of the economy, compliance with legislation, resource scarcity, HIV & AIDS, crime and corruption, and rapidly changing technology (Luo, 2003; Chen, 2006). As for the internal environment, construction SMEs' major cause of business failure revolves around management skills, financial knowledge, and lack of expertise in functional areas such as marketing and human resource management (Ligthelm and Cant, 2002).

Krajcovicova, Caganova and Cambal (2012), Ranjit, Mwanaumo and Nkado (2011), and Fatoki and Odeyemi (2010) are in agreement that some of the problems emanating from these factors include specific management issues such as lack of business management training and skills as well as a limited family business culture in South Africa (Ranjit, Mwanaumo and Nkado, 2011). Other reasons for failure include the inability to act as entrepreneurs, to control business growth and undue emphasis on financial rewards (Ndedi, 2013). In addition, management actions and behaviour that were found to be lacking in construction SMEs include: the inability to set strategic goals; plan forward actions; reluctance to seek advice; lack of management commitment, and unwillingness to adapt to change (Ligthelm and Cant, 2002). Proposed solutions have been identified to address the factors that contribute to the failure rate among construction SMEs in South Africa. These solutions include the need for entrepreneurship, for expertise, access to finance and a supportive regulatory environment (Shakantu, 2012). Other critical success factors for construction SME development include: the ability of contractors to market their services among the industry role players; the experience and management expertise of the owner; the ability to maintain a good relationship with clients, suppliers and other relevant role players, as well as to develop adequate project management capabilities (Shakantu, 2012).

As indicated in mainstream management literature, some of these difficulties can be surmounted. Hence, Hough *et al.* (2011) postulate that business strategy is management's action plan for running the business and conducting operations. Hough *et al.* (2011) add that core competencies and competitive capabilities are vital areas, which could assist construction SMEs in the execution of good business strategies. They are equally important areas that could be utilised in securing a competitive advantage over rivals in situations where it is relatively easy for rivals to copy smart strategies. Hough *et al.* (2011) further add that the best way to achieve a lasting competitive advantage is to out-execute competitors. For example, by performing certain value-chain activities in a superior fashion, SMEs could out smart their competitors. The core concept of this is that building competencies and capabilities that are very difficult or costly for rivals to emulate has a huge payoff for construction SMEs. This generally results in an improved execution strategy and the potential for competitive advantage. However, for most construction SMEs, the words 'business strategy' and 'competitive advantage' could be uncommon / or unknown as they tend to rather focus on survival, from project to project, instead of business growth.

Based on Porter's concepts (1980), a key fundamental in business growth, however, requires construction SMEs to understand trends within the industry, and to fully understand the market. Hough *et al.* (2011) opine that due to the emerging market being in its infancy, there is usually much speculation about how it will function, how it will grow and how big it will get. For

construction SMEs that are hampered by repeated shortcomings, it is very complicated in order to make profits due to limited historical information available to them (Hough *et al.*, 2011). Porter (1980) comments that a market signal is any action by a competitor that provides a direct or indirect indication of its intentions, moves, goals or internal situations. The behavioural pattern of competitors provides signals in a myriad of ways. Porter (1980) further mentions that some signals are bluffs, some are warnings and some are earnest commitments to a course of action. Therefore, if construction SMEs are able to recognise and accurately read these market signals, it would be of major significance for developing a competitive strategy and would be the key driver to competitor analysis (Porter, 1980).

In an attempt to assist construction SMEs to adapt to the abovementioned skills, a number of contractor development programmes were established. These programmes are managed by the National and Provincial Departments of Public Works (cidb, 2010a). These programmes have gained huge successes in relation to participation, but have not addressed the fundamental concern, which is the growth and development of construction SMEs into established contractors (Ranjit, Mwanaumo and Nkado, 2011). In addition, Ranjit *et al.* (2011) mention that the results of these contractor development programmes have been largely insignificant. This raises doubt surrounding the CDPs and their models for producing ‘serious industry players’ and developing sustainable construction SMEs. According to Ehlers and Lazenby (2004), research has revealed that firms who practice strategic management techniques usually outperform those that do not.

3. RESEARCH METHODOLOGY

An exploratory survey was used to obtain insights related to the issues impacting on the business failure rate among SMEs in South African construction. The survey was made up of three principal questions, two of which were 5 point likert scale type and the third question was open-ended. The first question required the respondents to rate certain statements that describe the characteristics of SMEs in South African construction, and the second question elicited responses relative to notable causes of business failure among such SMEs.

Table 1. Research Participants.

Respondent	Response	
	No.	%
Established owners	15	13.0
Construction managers	30	26.0
Quantity Surveyors	30	26.0
Academics	40	35.0
Total	115	100.0

The open-ended question then requested general comments pertaining to the subject area. A non-random sampling method was used to select respondents within the Western Cape Province. A purposive sampling method consists of identifying and selecting respondents that a researcher perceives to have prior knowledge in the subject area. Respondents were owners of established

construction firms, construction managers, and quantity surveyors involved in the South African construction industry and who are affiliated to professional bodies such as the SACPCMP, the ASAQS as well as the MBAWC. These respondents were chosen because of their active involvement in the development of construction SMEs in South Africa. Table 1 presents the research participants. In the context of this particular study, SME refers to firms that are graded between grades 3-6 on the cidb register.

4. FINDINGS AND DISCUSSION

The first of the three questions required the respondents to rate certain statements that described the characteristics of SMEs in South African construction, and the second question elicited responses to notable causes of business failure among such SMEs. The open-ended question then requested general comments pertaining to the subject area.

Table 2. Degree of concurrence relative to statements pertaining to SMEs within the South African construction industry.

Statement	Response (%)					MS	Rank	
	Unsure	Strongly disagree.....Strongly agree						
		1	2	3	4			5
Construction SMEs encounter difficulty in terms of securing projects	4.0	0.0	0.0	27.0	33.0	36.0	3.91	1
Construction SMEs often fail to realise core organisational objectives and goals	1.0	4.0	2.0	20.0	50.0	23.0	3.83	2
Construction SMEs battle to gain cost advantages over their immediate competitors	4.0	5.0	1.0	14.0	51.0	25.0	3.77	3
Construction SMEs experience difficulty in terms of managing the business of construction	4.0	5.0	7.0	40.0	25.0	19.0	3.46	4
Construction SMEs do not expand their businesses	2.0	4.0	13.0	36.0	21.0	24.0	3.43	5
Construction SMEs are marginally profitable if at all	6.0	4.0	16.0	28.0	24.0	22.0	3.22	6
Procurement efforts of construction SMEs do not yield commensurate results	10.0	8.0	14.0	16.0	38.0	14.0	3.08	7

As indicated in Table 2, it is evident that construction SMEs within the South African construction industry are challenged in many areas, which need to be addressed in order to enhance their business performance. The mean score (MS) of 3.53 indicates that in general the respondents can be deemed to agree with the statements. The majority of the respondents were of the opinion that 'construction SMEs encounter difficulty in terms of securing projects', which is reflected in the highest MS of 3.91. In addition, respondents perceived that 'construction SMEs often fail to realise core organizational objectives and goals'. This statement achieved the second highest MS of 3.83. A MS of 3.77 was recorded relative to 'construction SMEs battle to gain cost advantages over their immediate competitors'. Respondents also concurred that 'construction SMEs experience difficulty in terms of managing the business of construction', 'construction SMEs do not expand their businesses' and 'construction SMEs are marginally profitable if at all'. However, the lowest MS of 3.08 was relative to 'procurement efforts of construction SMEs do not yield commensurate results'.

The findings in Table 3 indicate the respondents are of the opinion that the lack of management competencies (MS = 3.91), marketing competencies (MS = 3.62) and strategic planning (MS = 3.61) are the three key areas that construction SMEs need to develop before they can realise core organisational objectives and goals, which should enable them to expand their businesses. Lack of finance achieved a MS of 3.49. A likely reason for this is that finance is still a major concern in terms of start-up capital, which the majority of construction SMEs require. However, in terms of MSs it is followed closely by lack of skilled workers, estimating competencies, tendering competencies, and forecasting and trend monitoring that are needed for successful enterprise management. The poor prioritisation of value systems achieved the second lowest MS of 3.18. A likely reason for this score is that most SMEs are still early developers in terms of market position and would more than likely battle in terms of developing sufficient value systems. It is however notable that lack of entrepreneurial skills achieved a MS of 3.30, which is detrimental to the development of construction SMEs. The lowest MS of 2.79 relative to contractor development programmes do not adequately address the business of construction indicates disagreement as opposed to agreement, however marginally so. In essence, they hamper the development of new construction SMEs in terms of equipping them with the various competencies required to sustain and grow their businesses.

Many authors (Hodgetts and Kuratko, 2008; Van Scheers, 2011; Handfield and Nichols, 2002; Bikitsha and Root, 2011; Toor and Dhir, 2011; Hormozi, Sutton, McMinn and Lucio, 2002; Ranjit, Mwanaumo and Nkado, 2011) identify the various causes of business failure among SMEs in South African construction. However, it is evident from the findings of this explorative study that respondents generally agreed with the statements and notable causes. Conversely, managerial and marketing competencies as well as strategic planning served as the most reputable causes for business failure among these SMEs.

Beaver (2007) postulates that despite the contribution and significance of small firms, every year tens of thousands of small enterprises cease to trade. Many researchers and practitioners claim that one of the major causes of small business failure is poor management (Temtime and

Pansiri, 2006). However, Hodgetts and Kuratko (2008) concur that one of the major reasons behind small business failure is the lack of managerial competencies.

Table 3. Causes of business failure among SMEs within the South African construction industry.

Cause	Response (%)						MS	Rank
	Unsure	Strongly disagree...Strongly agree						
		1	2	3	4	5		
Lack of management competencies	6.0	0.0	4.0	13.0	39.0	38.0	3.91	1
Lack of marketing competencies	2.0	0.0	12.0	33.0	27.0	26.0	3.62	2
Lack of strategic planning	7.0	4.0	0.0	25.0	37.0	27.0	3.61	3
Lack of finance	13.0	4.0	1.0	19.0	28.0	35.0	3.49	4
Lack of estimating competencies	10.0	0.0	4.0	34.0	29.0	23.0	3.43	5
Lack of forecasting and trend monitoring	7.0	0.0	19.0	18.0	32.0	24.0	3.41	6
Lack of tendering competencies	10.0	4.0	8.0	30.0	14.0	34.0	3.37	7
Lack of skilled workers	2.0	4.0	23.0	18.0	36.0	17.0	3.33	8
Lack of entrepreneurial skills	10.0	0.0	13.0	23.0	37.0	17.0	3.30	9
Poor prioritisation of value systems	11.0	0.0	12.0	37.0	18.0	22.0	3.18	10
Contractor Development Programmes do not adequately address the business of construction	15.0	4.0	31.0	16.0	16.0	18.0	2.79	11

Van Scheers (2011) mentions that marketing is one of the most important tasks for SMEs in South Africa. It is a key determinant as to whether the construction SME businesses will succeed

or cease to trade. According to Fuller (1994) cited by Reijonen (2010), it is argued that through marketing, a firm aims to achieve competitive advantage by satisfying its customers more effectively and efficiently than its competitors, thus ensuring long-term profitability. In addition, it is stated that marketing places customers at the centre of the firm's activities. Marketing can therefore be regarded as a process that brings the firm in constant and direct contact with its customers.

Despite the importance of managerial and marketing competencies, Hormozi, Sutton, McMinn and Lucio (2002) suggest that, a key determinant of business success lies in the absence or presence of strategic planning. According to Beaver (2003), most SMEs do not engage in strategic planning. In addition SME owner-managers have been accused of being 'strategically myopic' and lacking the long-term vision as to where their firm is headed. The concern is that by neglecting strategic planning, SMEs may not achieve their full performance and growth potential, and their survival could be placed at risk (Wang, Walker and Redmond, 2011). Wang, Walker and Redmond (2011) further mention that in terms of business performance and growth, strategic planning is generally utilised most often in better performing SMEs. Wang, Walker and Redmond (2011) further confer that SMEs that engage in strategic planning are more likely to achieve higher sales growth, higher returns on assets, higher margins on profit, and higher employee growth, than those that do not.

5. CONCLUSION AND RECOMMENDATION

The study was conducted to obtain proficient judgement on the various statements and possible causes which influence the business failure rate among SMEs in South African construction. The overall aim of this study is to improve the business performance of construction SMEs in South Africa. An exploratory survey was used as the method to collect data which would generate insights related to the issues impacting on the business failure rate among SMEs in South African construction. The survey entailed three principal questions, two of which were 5 point likert scale type, and the third was open-ended. The first question required the respondents to rate certain statements that describe the characteristics of SMEs in South African construction, and the second question elicited responses to notable causes of business failure among such SMEs. The open-ended question then requested general comments pertaining to the subject area. An empirical concern in terms of directing the overall research was that the findings confirmed the importance of managerial and marketing competencies as well as strategic planning which SMEs in South African construction should possess if they are to improve their business performance. The study was geographically limited to the Western Cape Province. In addition limitations also existed in terms of the choice of respondents, which did not include owners of construction SMEs. It is therefore acknowledged that the input of construction SMEs would have been more credible than professionals and that further empirical studies could be conducted. However, the findings indicate that the proposed study will contribute to the related body of knowledge.

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