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The potential of built-environment professionals' contribution towards emerging contractor development

Peer reviewed

Abstract

Emerging contractors have enjoyed greater privileges since the advent of the new South African dispensation. The state has put many resources, ranging from enabling legislative laws and regulations to the funding of training and development programmes, to assist these contractors. The intended outcomes, however, seemed to be elusive in government-funded projects. The business environment still poses some challenges to the emerging contractors; hence the question: Can built-environment professionals contribute to emerging contractor development? The purpose of this article is to indicate to what extent built-environment professionals can contribute towards contractor development within the existing contractual parameters.

Although built environment professionals ensure that there are open communication channels between them and emerging contractors, there is some cause for concern regarding the effectiveness of written and graphic communication. Built-environment professionals do not necessarily spend much time in training emerging contractors, but more than normal time is given in inspecting work done by emerging contractors, even though building contracts do not make provision for this.

The value of the findings outlined could assist in improving success through collaboration between project role players at minimal input costs.

Keywords: Collaboration, emerging contractors, built-environment professionals, contractor development

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1. Introduction

After the demise of the so-called unjust 'apartheid' system that prevented the vast majority of South Africans from realising their full economic potential in the construction industry, the current government put forward measures for redress. Redress measures included the proclamation of laws to create an enabling environment for new entrants into the industry, as substantiated by Hauptfleisch, Lazarus, Knoetze & Liebenberg (2007: 2), and government-sponsored contractor development programmes, namely the Extended Public Works Programme, the Emerging Contractor Development Programme and the Contractor Incubation Programme (CIDB, 2009).

Despite the above-mentioned efforts by government, the intended outcomes have remained elusive in most government-sponsored construction projects in South Africa. It was reported that emerging contractors still faced challenges and that they are often unable to sustain business operations beyond the first year (DPW, 2006). Consequently, the focus has shifted from enabling legislation to contractor mentorship models and contractor performance standard models, as reported by Dlungwana & Rwelamila (2005: 4208-4215); Hauptfleisch *et al*. (2007: 1-12), and the Eastern Cape Economic Development Cooperation (2007: 6).

This has led to the need to determine what role built-environment professionals can play in facilitating the intentions of government, focusing on strategic collaboration between these professionals and emerging contractors, in order to improve contractor-development programmes in South Africa.

A great many resources have been invested in contractor development by the South African government, but emerging contractors face enormous challenges, ranging from lack of skills to inhibitive business environments. The primary objective of this article is to determine what construction professionals can do to create an enabling business environment that can promote emerging contractor development and to obtain their viewpoint on the effectiveness of these methods/strategies.

2. Review of the literature

In the following brief literature review, an attempt has been made to examine various strategies for, and collaboration between built-environment professionals and emerging contractors as a strategic tool in emerging contractor development; the conditions that necessitate, as well as those that enable the proliferation of

collaborative strategic alliances, and how contractor development in the South African context could benefit from such collaboration. This overview will provide some insight into the various strategies and show how professionals can assist with emerging contractor development.

2.1 Collaboration and alliances

Business alliances with suppliers or service providers have proven profitable in the long term and more so in research and development projects (Dunning & Boyd, 2003: 85). Collaborative strategic alliances between built-environment professionals and emerging contractors should be considered no differently. Eriksson & Laan (2007: 387) summed up some of the problems in the construction industry such as poor productivity, cost overruns, decline in construction quality, a decrease in customer satisfaction, conflicts and late completion. Root causes for the inefficiencies can be attributed to the industry's fragmentation, the uniqueness of construction as a product, the divorce between design and construction, obsolete procurement methods, and lack of trust and cooperation between the various actors.

2.2 Nature of alliances

The nature of alliances is related to the end results that initially led to the alliances' inception. Love, Irani, Cheng & Li (2002: 4) put forward two kinds of alliances, namely long-term and short-term alliances. Long-term strategic alliances are cooperative, whereas short-term strategic alliances are collaborative. In this article, collaborative strategic alliances are used as the platform for debate, due to the short-term nature of construction projects.

2.2.1 Rationale for strategic alliances

Construction projects such as business ventures have a factor in common: an uncertain future and, therefore, an element of risk. Beyerlein, Freedman, McGee & Moran (2003: 34) advocated that collaborative efforts be supported by the following principles:

- Focused collaboration on achieving business results.
- Aligned organisational support systems to promote ownership.
- Articulation and enforcement of a few strict rules.
- Exploitation of the rhythm of convergence and divergence.
- Management of complex trade-offs on a timed basis.

- Creation of higher standards for discussion, dialogue and information-sharing.
- Fostering of personal accountability.
- Alignment of authority, information and decision-making.
- Treatment of collaboration as a disciplined process.
- Design and promotion of flexibility.

It should be noted that alliances, unlike contracts, are not governed by rules, but by principles. Love (1997: 29) suggested that people react negatively to rules, by concentrating on doing things against the set parameters, and end up producing unintended results. Alliances, referred to as partnerships in the construction industry, yield numerous benefits that will be elaborated on in the following subsections.

2.2.2 Information-sharing

Information is one of the pillars that ground the principles of partnering. Dainty, Briscoe & Millett (2001: 845) support the view that the root of problems experienced by construction teams is deficient or inaccurate information.

2.2.3 Resource-combining

A combination of forces against the challenges on the factors of production, namely finance, human capital, natural resources and entrepreneurship, produce more than the sum of their separate contributions. Imparting skills by built-environment professionals to emerging contractors ranks high on a table of scores for design team competencies (Crafford, 2007: 104).

2.2.4 Partnering and ethics

Wood, McDermott & Swan (2002: 4) postulated that sustainable relationship-building starts from a no-trust/low-ethics foundation that shifts to a trustful/ethical relationship. In addition, these authors argued that, in construction, trust denotes ethical contracts.

2.2.5 Public-Private Partnerships (PPP)

Collaboration between public entities and private companies is formed to add value to service delivery. The Project Development Facility (PDF) is a single-function trading entity created within National Treasury in accordance with the Public Finance Management Act (PFMA). Its purpose is to pay moneys for services rendered by

consultants, called transaction advisors, in accordance with the terms of the contract between a department or public entity, to which the PFMA applies, and the transaction advisor. When appropriate, disbursed funds are recovered from the successful private-party bidders at the financial close of a Public Private Partnership (PPP) that has operated under the PFMA or section 120 of the Municipal Finance Management Act (South Africa, 2005).

2.3 Emerging contractor development in South Africa

The role of emerging contractors in the construction industry is crucial for job creation, especially in developing economies (Dlungwana & Rwelamila, 2003: 411). The South African government, in pursuing this ideal, has made considerable progress in creating an enabling environment for new entrants into the construction industry.

A number of emerging contractor-development models (ECDMs) and emerging contractor-development programmes (ECDPs) are used interchangeably, as they have been created in an endeavour to configure and accelerate contractor development. This enabling environment that has been created leaves the construction fraternity with the challenge of creating a working model to achieve the stated objectives within the unique demographics of South Africa (Hauptfleisch *et al*., 2007: 3).

Various models exist to enhance contractors' and construction professionals' collaboration in benefiting the success of a project.

2.3.1 Emerging contractor-development models

Emerging contractor-development models (ECDMs) refer to a structured methodology that comprises measures designed to help contractors develop the technical and management skills that are required in order to grow their business enterprises (Dlungwana & Rwelamila, 2005: 4212).

2.3.1.i South African Construction Excellence Model (SACEM)

SACEM is a contractor-performance assessment tool which comprises a comprehensive, systematic model intended to promote the concept of total quality management at both business and construction site levels. SACEM's approach to excellence is through a systematic, continuous improvement of eleven key performance criteria. While the model is diagnostic, its strength lies in directing management towards a lasting, holistic approach to managing a construction firm. SACEM is based on the principles of the

South African Excellence Foundation's model, called the South African Excellence model (SAEM). Previous training, such as DPW's incubator programme (CIP) managed by the ECDP Unit, has not contained a quality-assurance component nor does the current Expanded Public Works Programme (EPWP). Consequently, they lack the capacity to determine the effectiveness, value for money and level of development taking place (Hauptfleisch *et al*., 2007: 83). The SACEM was thus construed to address the shortcomings.

2.3.1.ii Integrated Emerging Contractor-Development Model (IECDM)

The Eastern Cape Economic Development Cooperation (ECDC) embarked on collaborative research in response to its mandate as a development agency of the State with respect to emerging contractor development to concentrate on general building contracting (ECDC, 2007). The research culminated in an Integrated Emerging Contractor-Development Model (IECDM). The successes of the model that were recorded from the pilot programme were significant and shortcomings were also highlighted.

The relevance of the model to the South African setting led to an assertion by Hauptfleisch & Verster (2007: 41) that the IECDM's success in empowering emerging contractors is assured by the involvement of accredited mentors. The success of the model, according to the closeout report, was realised in the improvement of business management skills; tendering skills; business growth; CIDB grading, and increased employment chances (Dlungwana & Hauptfleisch, 2011: 359-360).

2.3.2 Contractor-development programmes

2.3.2.i Extended Public Works Programme (EPWP)

At its inception, this programme was designed to increase employment opportunities by the provision of an infrastructure, by using economically viable labour-intensive construction (DPW, 2005: 15). The programme developed a learning programme to assist subsistence contractors into sustainable business entities.

2.3.2.ii Contractor Incubation Programme (CIP)

The CIP caters for capable emerging contractors who have already progressed from the lower grades and are eligible for contracts of over ZAR 1 million. The CIP is used in conjunction with the CIDB register of contractors (DPW, 2005: 19). The programme's duration

of three years posed a challenge as mostly small projects last for a fraction of the mentioned duration.

The above brief overview outlined the rationale behind collaboration, the endeavours of government to fulfil its constitutional as well as political mandates, and efforts by government to accommodate all the stakeholders, especially Previous Disadvantaged Individuals (PDIs), by instituting developmental programmes for emerging contractors. However, a perceived grey area is evident with respect to whether government agents, namely built-environment professionals, contribute to any of these contractor-development programmes.

3. Research methodology

Research by Crafford (2002: 139) to establish whether construction professionals' skills render it conducive to work with emerging contractors and how government could assist in creating an environment for collaborative efforts between the various built-environment role players identified the following skills as important to work with emerging contractors. The ability to:

- Demonstrate an awareness of the special needs and process of their satisfaction.
- Interact amicably, yet professionally, with emerging contractors.
- Communicate effectively with emerging contractors.
- Invest additional inspection/supervision input to work involving emerging contractors.

This article is founded on web-based and email-based surveys used to secure primary data from built-environment professionals. The quantitative method of research was implemented whereby ordinal scales were analysed through nonparametric statistical tests, by using the mean scores, as advocated by Jamieson (2004: 1217). Survey research, according to Leedy & Ormrod (2005: 183), involves acquiring information about one or more groups of people on their characteristics, opinions, attitudes and so forth, by asking questions and tabulating the answers.

The survey was conducted using a structured questionnaire distributed electronically to built-environment professionals in the Eastern Cape Province, according to the list of consultants registered with the Eastern Cape Department of Public Works. The population consisted of all fifty-four professionals who had worked with emerging contractors in government-funded projects. The response group

included architects (31%), quantity surveyors (54%) and consulting engineers (15%), and the majority (77%) were mostly involved in public sector projects, while the remaining 23% were mostly involved in private-sector projects. The majority (73%) have had more than 15 years' experience in the construction industry. This respondent profile indicates that respondents should have the necessary experience and knowledge to provide reliable information.

The questionnaire was designed to determine built-environment professionals' views on two aspects:

- Their role in communicating with emerging contractors.
- Their involvement in mentoring emerging contractors.

The response rate was 24% and this falls within the 7%-40% range regarded by Moyo & Crafford (2010: 68) as adequate for contemporary built-environment surveys. Questionnaires were completed anonymously to ensure a true reflection of the respondents' views and to meet the ethical criterion of confidentiality. It was assumed that the respondents were sincere in their responses, as they were assured of their anonymity. A 5-point rating scale, also known as the Likert-type scale (Leedy & Ormrod, 2005) was used to elicit participants' opinions on various statements.

4. Results and findings

For the purpose of analysis and interpretation, the following terminology was used regarding mean scores: 'strongly disagree' (≥1.0 and ≤1.8); 'disagree' (>1.8 and ≤2.6); 'neutral' (>2.6 and ≤3.4); 'agree' (>3.4 and ≤4.2) and 'strongly agree' (>4.2 and ≤5.0).

4.1 Communication between built-environment professionals and emerging contractors

Respondents were requested to state to what extent they agreed with the statements regarding their role in communicating with emerging contractors, where 1=Fully disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Fully agree. Table 1 shows the responses.

Table 1: Communication with emerging contractors

Statement	*Response (%)*					*MS*
	1=Fully disagree, 3=Neutral, 5=Fully agree					
	1	*2*	*3*	*4*	*5*	
There are open channels of communication between professionals and emerging contractors	0	0	0	87	13	4.13
Verbal communication with emerging contractors is effective	0	20	20	47	13	3.53
Written communication with emerging contractors is effective	13	13	20	40	14	3.29
Graphic communication (e.g., information on drawings) with emerging contractors is effective	13	7	33	47	0	3.14

Table 1 shows that the majority of respondents:

- 'Agree' that there are open channels of communication between professionals and emerging contractors (MS=4.13). It is, therefore, clear that built-environment professionals ensure that there are open communication channels between them and emerging contractors; there is, therefore, no need for major improvements.
- 'Agree' that verbal communication between built-environment professionals and emerging contractors is effective (MS=3.53). Although not very conclusive, it seems that verbal communication with emerging contractors is fairly effective.
- Are 'neutral' regarding the effectiveness of their written communication with emerging contractors (MS=3.29).
- Are 'neutral' regarding the effectiveness of their graphic communication with emerging contractors (MS=3.14).

The above two 'neutral' results with respect to written and graphic communication are a cause for concern, considering that contracting work in the construction industry relies heavily on these two communication methods. These results are supported by research conducted by Crafford (2007: 138) where Communication (generally) is ranked 3rd most important on a list of 29 architectural competences, while the level of proficiency therein is only listed as 8th.

Oral, written and graphic communication are ranked 6th, 12th and 27th, respectively, on the importance list of twenty-nine contractor competences, compiled by Smallwood (2000), in Crafford (2007: 55).

4.2 Involvement in mentoring emerging contractors

Respondents were requested to state to what extent they agreed with statements regarding their involvement in mentoring emerging contractors, where 1=Fully disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Fully agree. Table 2 shows the responses.

Table 2: Involvement in mentoring emerging contractors

Statement	*Response (%)*					*MS*
	1=Fully disagree, 3=Neutral, 5=Fully agree					
	1	*2*	*3*	*4*	*5*	
Additional time is given to train emerging contractors	20	13	27	27	13	3.00
Advice is given to emerging contractors with respect to their contractual responsibilities	0	7	0	80	13	3.99
Advice is given to emerging contractors with respect to compliance issues	0	7	0	73	20	4.06
Additional time is given to inspect work done by emerging contractors	0	7	0	60	33	4.19
Close monitoring and guidance on site may improve emerging contractors' performance	0	20	0	20	60	4.20
It is essential to mentor emerging contractors	0	7	0	33	60	4.46
Building contracts do not make provision for more frequent (than normal) inspections of work done by emerging contractors	0	0	13	27	60	4.47
A system whereby emerging contractors can be monitored is currently non-existent	0	0	13	27	60	4.47
Built-environment professionals' appointments do not make provision for compensation to mentor emerging contractors	0	0	10	27	63	4.53
Built-environment professionals' appointments should be modified to make provision for the mentoring of emerging contractors	0	0	7	20	73	4.66

Table 2 shows that the majority of respondents:

- Are 'neutral' in agreeing that additional time is given to train emerging contractors (MS=3.00). This indicates that emerging contractors do not really get any training from built-environment professionals during construction.
- 'Agree' that advice is given to emerging contractors with respect to their contractual responsibilities (MS=3.99) as well as with compliancy issues (MS=4.06). Many emerging contractors may not be fully conversant with legal matters, of which building contracts form a very important aspect of their work. Fortunately, the results indicated that built-environment professionals do assist emerging contractors regarding their contractual responsibilities and compliance issues.
- 'Agree' that additional time is given to inspect work done by emerging contractors (MS=4.19). Additional time given by built-environment professionals can be very beneficial to emerging contractors as it would ensure that the quality of their work is maintained throughout the construction period, minimising the need for any re-work.
- 'Agree' that close monitoring and guidance on site may improve emerging contractors' performance (MS=4.20). It is quite clear that built-environment professionals are of the opinion that on-site monitoring and guidance could be beneficial to emerging contractors. This is also evident from the results that show that built-environment professionals 'strongly agree' that it is essential to mentor emerging contractors (MS=4.46).
- 'Strongly agree' that building contracts do not make provision for more frequent (than normal) inspections of work done by emerging contractors (MS=4.47). It is quite evident that there is no provision in building contracts for more frequent inspections. As more (than normal) inspections would point out and/or eliminate any defective work, emerging contractors could benefit greatly by more frequent inspections by built-environment professionals.
- 'Strongly agree' that a system, whereby emerging contractors could be monitored, is currently non-existent (MS=4.47). It is evident that such a system does not really exist; if such a system is implemented, emerging contractors could be monitored regularly to improve their performance and productivity.
- 'Strongly agree' that built-environment professionals' appointments do not make provision for compensation for

mentoring emerging contractors (MS=4.53), and 'strongly agree' that built-environment professionals' appointments should be modified to make provision for mentoring emerging contractors (MS=4.66). It is quite clear that built-environment professionals are not being compensated for mentoring emerging contractors and that they believe that their appointments should be modified to make provision for this. This would have a positive impact on their willingness to mentor emerging contractors and government's need to rectify this problem urgently.

Research conducted by Crafford (2007: 106) indicated that the competence 'to work with emerging contractors' is ranked 10th highest on a list of 33 quantity-surveying competences, while it is ranked 12th on a list of 30 civil-engineering competences (2007: 103) and 22nd on a list of 29 architectural competences (2007: 102). It is thus fairly important for built-environment professionals to be competent to work with emerging contractors, while government, professional bodies and tertiary educational institutions should ensure that systems are put in place to facilitate this.

A gap analysis of competence importance and possessed competence indicated that the biggest gap of all competencies for architects, quantity surveyors and consulting engineers was 'skills to work with emerging contractors' (Crafford, 2007: 155-156).

5. Conclusion

Collaboration and alliances between both built-environment professionals and emerging contractors are vital for emerging contractor development. This could result in numerous benefits, not only for emerging contractors, but also for built-environment professionals and the public at large. These collaboration efforts should, however, be based on specific principles such as focused collaboration on achieving business results, aligned organisational support systems to promote ownership and articulation, and the enforcement of strict rules.

Various emerging contractor-development models (e.g., SACEM and ICEDM) and contractor-development programmes (e.g., EPWP and CIP) already exist, but these should be implemented more fully. This, however, needs the full support and collaboration of built-environment professionals.

The following are some of the results emanating from the survey among built-environment professionals to determine their role in

communicating with emerging contractors and their involvement in mentoring emerging contractors:

- Built-environment professionals should ensure that there are open communication channels between them and emerging contractors.
- There is some cause for concern regarding the effectiveness of written and graphic communication between built-environment professionals and emerging contractors.
- Built-environment professionals do not really spend much time in training emerging contractors, but more than normal time is given to inspecting the work done by emerging contractors, even though building contracts do not make provision for this.

6. Recommendations

The following recommendations resulted from the study:

- Built-environment professionals should assist in training emerging contractors during construction.
- Built-environment professionals should assist in on-site mentoring and guidance.
- Building contracts should make provision for more (than normal) inspection of works which would point out and/or eliminate any defective work.
- A mentoring system should be implemented to improve the performance and productivity of emerging contractors.
- Although some legislation for mentorship now exists, built-environment professionals should ensure that they are appointed (and compensated) for both consultant and mentor, if they are requested to assist in mentoring emerging contractors.

Although determining built-environment professionals' competence and skills to work with emerging contractors did not form part of this research, evidence indicated that there may be a need for improved competence. Further research could also be conducted to determine emerging contractors' views on communication with, and mentoring by built-environment professionals, as well as the effectiveness of the various collaboration and alliance systems and programmes provided by government. Further research on the role played by well-established contractors through subcontracting out to emerging contractors would also assist in emerging contractor development.

The results of this survey are based on perceptions of built-environment professionals in the Eastern Cape Province and may differ somewhat from respondents elsewhere in South Africa. This creates an opportunity for further research to obtain a wider perspective on the issue of collaboration between built-environment professionals and emerging contractors.

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