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Benchmarking SMMEs' management performance in the built environment of Gauteng province, South Africa

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Abstract

In South Africa, small, medium and micro enterprises (SMMEs) are characterised by poor management, weak entrepreneurial performance and low global competitiveness, among other challenges. The primary objective of this article is to identify reasons for this poor performance of SMMEs in the building construction industry. Secondary objectives were to evaluate, benchmark and rank the management performance of SMMEs in this industry.

An evaluative, comparative, analysis research design was constructed to do the research. A total of 326 employees from 64 randomly selected SMMEs participated in a self-assessment evaluation process. The Performance Excellence Self-assessment Questionnaire (PESQ) was used to collect primary data. Secondary data on the models of management performance was obtained from relevant publications.

The study established management performance benchmarks for SMMEs in the Built Environment. SMMEs in the study area in South Africa do not benchmark their management performance against world-class and SADC best practices. The three lowest ranked criteria out of the eleven management performance criteria evaluated were social responsibility, business processes, and planning and strategy. These criteria were the main causes of poor management performance of SMMEs.

The study concluded with a summary of management performance scores and recommendations for improving productivity and benchmarking of SMMEs in the building construction industry against international comparative levels.

Keywords: Benchmarking, building construction industry, management performance criteria, small, medium and micro enterprises

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Abstrak

Klein-, medium- en mikro-ondernemings (KMMOs) in Suid-Afrika word onder andere gekarakteriseer deur swak bestuur en swak entrepreneursvertoning sowel as 'n lae vlak van globale kompeterende vermoë. Die hoofdoelwit van die artikel is om redes vir die swak bestuur van KMMOs in die bou- en konstuksie-industrie te identifiseer. Newedoelwitte het evaluering, vergelyking en bepaling van rangorde van bestuursvertoning van KMMOs ingesluit.

'n Evaluasie, vergelykende en analitiese navorsingsontwerp is vir die studie gebruik. 'n Totaal van 326 werknemers van 64 willekeurig gekose KMMOs het deelgeneem aan 'n self-assesseringsproses. Die "Performance Excellence Self-assessment Questionnaire (PESQ)" vraelys is gebruik om primêre data te versamel. Sekondêre data oor modelle is uit relevante literatuur verkry.

Die studie het vergelykingsbasisse vir KMMOs in die Bou-omgewing daargestel. KMMOs in die studie-gebied vergelyk nie formeel hulle bestuursvertoning met wêreldstandaarde of Suid-Afrikaanse Ontwikkelingsgemeenskap (SAOG) lande nie. Die drie kriteria wat die laagste rangorde ten opsigte van bestuursvertoning onder die KMMOs verkry het was sosiale verantwoordelikheid, besigheidsprosesse asook beplanning en strategie. Hierdie drie kriteria was dan ook op die oog af die hoofoorsake van swak bestuur in die KMMOs.

Die navorsingstudie het afgesluit met 'n opsomming van bestuursvertoningresultate asook aanbevelings om produktiwiteit en vergelykbaarheid van KMMOs in die bou- en konstruksie- industrie in Suid-Afrika na internasionale standaardvlakke te verbeter.

Sleutelwoorde: Basis vergelykbaarheid, bou- en konstruksie-industrie, bestuurs-vertoningkriteria, klein-, medium- en mikro-ondernemings

1. Introduction

The building construction industry, also referred to as the built environment, is the third largest employer in South Africa (Council for Scientific and Industrial Research [CSIR] 2005: 1). This industry accounts for up to 70% of a nation's capital stock which, in South Africa, is approximately R1.2 trillion. It is therefore a significant employer creating numerous economic opportunities for small, medium and micro enterprises (SMMEs) (Van Wyk, 2003: 1; Lanor, 2008: 19).

In most countries construction contributes more than half of the total capital investment, and this contribution can amount to as much as 10% of the Gross Domestic Product (GDP) (Van Wyk, 2003: 13). The World Bank (2003: 8) also emphasises the importance of the building construction industry and its continued growth. Nearly half of the world's population (47.2%) is currently urbanised and it is estimated that by 2050 the urbanised world population will be approximately 66%. For the building construction industry to cope with this growth there is a dire need for strong management.

The challenge that South Africa faces is the low ranking in terms of global competitiveness (Naidoo, 2004: 2; Shezi, 2004: 2; South African

Excellence Foundation [SAEF], 2005: 2). Among this low ranking, South African SMMEs are also characterised by poor management (Badenhorst, Cant, de J Cronje, Du Toit, Erasmus, Grobler, Kruger, Machado, de K Marais, Marx, Strydom & Mpofu, 2006: 120). Good management performance is a major concern when it comes to the competitiveness in the built environment in South Africa, especially as far as SMMEs arer concerned.

1.1 Research question

In the light of this concern it is critical to find principal reasons for the poor management performance of SMMEs in the building construction industry. The question is to identify these principal reasons.

In addressing the research question, this article reports on research conducted using the South African Construction Excellence Model (SACEM) to benchmark and rank management performance.

1.2 Objectives of the study

The primary objective of this study was to identify reasons for poor management performance of SMMEs in the building construction industry in South Africa. The secondary objectives were to benchmark management performance of small construction enterprises against world-class and SADC best practice averages and to determine the management performance levels of SMMEs in the building construction industry in South Africa.

2. Research methodology

Primary data were collected by means of face-to-face interviews using the Performance Excellence Self-assessment Questionnaire (PESQ). PESQ is a computer-aided matrix questionnaire research tool. This tool is based on the South African Excellence Model. The advantage of PESQ lies in the immediate availability of preliminary results. The quantitative data collected were used to evaluate, benchmark and assess the level of performance of the sampled SMMEs. SMMEs' owner-managers compared their scores against world-class and SADC best practices upon completion of the computer-aided self-assessment.

An evaluative, exploratory and comparative analysis research design was used for data generation and analysis (Hofstee, 2006: 124-126; Neuman, 2006: 33-35). The reason for this was that the study evaluated, explored and compared the scores of management

performance criteria with world-class and SADC best practice. Management performance criteria were also ranked and compared with one another.

Management performance of SMMEs was evaluated on a scale from zero to four. SMMEs that scored zero and one in management performance were regarded as being weak in management performance. Those that scored two were regarded as having made good progress, those that scored three were considered best in SADC and those that scored four were considered world-class best on practice (SAFRI, 2004: 5).

The data analyses were done using the SPSS statistical software and an electronic self-assessment programme (*Batlisisa*[1]).

3. Sampling and responses

Two sub-populations of building construction SMMEs in Gauteng, South Africa, were used for the study, namely the Gauteng Master Builders Association (GMBA) and the Construction Industry Development Board (CIDB). The reason for sampling from the GMBA and the CIDB populations was that these organisations contain registers of leading role players in the industry. The population size of the GMBA was 557 SMMEs while that of CIDB was 532 SMMEs. The study population was, therefore, based on 1089 SMMEs.

Proportional, stratified, random sampling was used to select a representative sample of these SMMEs.

The study followed a sampling ratio of 10%, as guided by Neuman (2006: 241). The population and the sampling size were, therefore, calculated as follows:

The total population is (N) = 557 + 532

= 1089

The sample size is (n) = N x 0.10

$$n = N \times \textit{sampling ratio}$$

$$= 1089$$

$$\approx 109$$

1 "Batlisisa" is a South African electronic self-assessment programme developed in 2003 by Ideas Management Southern Africa cc (now operating as Centre for Excellence). This programme was based on the SAEM and the management performance excellence criteria.

Table 1 summarises the population, sample, response and employees interviewed in the GMBA and the CIDB.

Table 1: SMMEs population, sample, response and employees interviewed

Study area	*Population size*	*Sample population*		*Response rate*		*Number of employees interviewd*
	N	*n*	*%*	*No.*	*%*	
GMBA	557	56	10	30	54	229
CIDB	532	53	10	34	64	97
Total	*1089*	*109*	*10*	*64*	*59*	*326*

A simple random sample of 64 SMMEs responded from a possible 109. This makes an average response rate of 59%. This was distributed as 54% from the GMBA and 64% from the CIDB. A total of 326 employees were interviewed to answer questions about the sampled SMMEs. These employees were purposively selected based on the total number of employees in a business and their availability at the time of the interview. They represented staff at all levels, namely top management, middle management, lower management and labourers. The number of employees interviewed per business varied from one to 21 employees. The reason for this variation was that some businesses employ fewer employees than others.

The equality of variances tests were conducted to determine the variations in responses where only one respondent represented an SMME compared to where the SMMEs were represented by several respondents. Levene's test of variances (Field, 2000: 6) was used for this purpose. The results of the tests revealed that there was no significant statistical evidence from the data that the case of one employee and those of several employees vary.

4. Models of management performance

The study evaluated the most prominent models used to measure the management performance of businesses. The rationale for evaluating these models was to select the most appropriate and superior model to help improve the management performance of small building construction enterprises in Gauteng province, South Africa. The balanced scorecard, the United States' Malcolm Baldrige National Quality Award (MBNQA) and the European Foundation for Quality Management (EFQM) were among the models evaluated.

The model found to be most suitable and superior to evaluate the management performance of SMMEs was the South African Construction Excellence Model (SACEM).

5. Reliability and validity measurements

Reliability and validity are key qualities in all measurements. These qualities help to establish the consistency of scores, appropriateness, meaningfulness, usefulness, truthfulness and credibility of findings (Neuman, 2006: 188; Babbie, 2007: 146).

Babbie (2007: 146) describes reliability as the quality of the measurement method that suggests that the same results would be reached each time in repeated data collections. In this study, reliability was enhanced by using trained fieldworkers and involving randomly selected businesses from the GMBA and the CIDB. In addition, the researcher actively participated and checked that all the questionnaires were completed correctly.

To determine the reliability of the research instrument, a computer reliability analysis, Cronbach's alpha, was used (Cronbach, 1951). Coefficients equal to or greater than 0.70 indicate high reliability of the measuring instrument (O'Leary-Kelly & Vokurka, 1998: 397). The reliability coefficients in respect of the various criteria of this questionnaire are reflected in Table 2.

Table 2: Reliability analysis for the management performance criteria

No.	*Model criteria*	*Reliability coefficients: Cronbach's alpha*
1	Leadership	0.884
2	Strategy and planning	0.916
3	Customer and market focus	0.876
4	People management	0.867
5	Resources and information management	0.849
6	Processes	0.876
7	Social responsibility	0.936
8	Customer satisfaction	0.868
9	People satisfaction	0.889
10	Supplier and partnership performance	0.930
11	Results	0.939
	Average	*0.893*

Table 2 shows that the Cronbach's alpha coefficients for the eleven SACEM criteria ranged from 0.849 to 0.939, yielding an average reliability of 0.893 for the SACEM test as a whole. The results obtained in this study suggest that the reliability of the questionnaire as a whole and the individual criteria were highly reliable since they were all above the prescribed minimum of 0.70.

Validity is appropriateness, meaningfulness, usefulness and truthfulness, and refers to how well an idea 'fits' with actual reality (Dooley, 2001: 76). It refers to the degree to which a research instrument measures what it is supposed to measure (Oschman, 2004: 308).

This study ensured instrument, as well as internal and external validity. Uys (2006: 13, 14) pointed out that an instrument must measure what it claims to measure. Furthermore, in order to validate a measuring instrument, it should prove that it does what it is supposed to do.

Proof of instrument validity in this study comes from the fact that the American and European quality models (the MBNQA and EFQM) use similar instruments from which the SACEM was adapted. Stakeholders who successfully used the instrument in South Africa include Honeywell Southern Africa, DaimlerChrysler South Africa Parts Division and South African Air Force Protection Services (SAEF, 2005: 24).

Internal validity answers the question as to whether the experimental treatment causes the observed difference. This means that internal validity is the logic of research design, the fact whether other variables that may intervene were controlled, which is the integrity of the study (Deflem, 1998: 10). In this study, internal validity was established through the use of a previously tested and validated research instrument whose outcomes are well documented (Eygelaar, 2004: 75; Von Solms, 2006: 211).

Lucas (2003: 237) states that external validity "refers to whether the results can be legitimately generalized to some specified broader population". In addition, external validity is generalising from a sample to a larger population. That is, external validity, generalisability and representativeness imply the same concept.

The results of this study can be generalised to a larger population of the Gauteng's SMMEs in the built environment because randomisation of the sample was used to remove bias. In addition, having observed differences in the population according to the attributes of the businesses, stratification of the sample was

used. Lastly, to ensure non-dominance of the stratified samples' effect on the outcomes of the results, proportional representation wasadopted.

6. Data analysis

The data were analysed using the SPSS software package and the *Batlisisa* electronic self-assessment programme. SPSS was used because it is a standard statistical software package while *Batlisisa* is an instrument used specifically to measure management performance of businesses.

7. Findings of the study

Management performance of small construction enterprises against world-class and SADC best practice benchmarking was established. The results of the PESQ were used for this purpose. The respondents' perceptions of the management performance of SMMEs were evaluated, benchmarked and their performance levels assessed. The following sections report these findings.

7.1 Evaluation of management performance of SMMEs

Table 3 and Figure 1 reflect the self-assessment scores of the SMME respondents using the *Batlisisa* computer-aided matrix programme.

Table 3 shows the overall performance of the responding SMMEs. The criteria points (maximum possible points) and the points scored by participating SMMEs are shown in the labelled columns of Table 3. Columns five, six and seven show the differences (gap between maximum and scored points), criteria priority scores (where the lowest number indicates higher priority) and achievement in percentage form. Priority number '1' in this Table indicates highest priority; priority number '2' indicates the second highest priority, and so on. Achievement given as a percentage is the ratio of points scored to corresponding criteria points (column four to column three in the Table) multiplied by 100.

These criteria points are adapted from the international management performance excellence models and scaled down for the South African and SADC region (SAEF, 2000: 14). The criteria points were used as benchmarks for world-class and SADC best practice.

Table 3: Overall performance of responding SMMEs

	Criteria	*Criteria points*	*Points scored*	*Difference*	*Criteria priority*	*Achievement %*
	Enabler criteria					
1	Leadership	25	18	7	10	72.0%
2	Planning and strategy	17	2	15	3	11.8%
3	Customer and market focus	15	10	5	8	66.7%
4	People management	23	7	16	5	30.4%
5	Resource and information management	15	10	5	9	66.7%
6	Business processes	30	13	17	7	43.3%
	Total for enabler criteria	*125*	*60*	*65*	-	*48.5%*
	Results/Achievements criteria					
7	Social responsibilty	15	0	15	1	0.0%
8	Customer satisfaction	43	32	11	11	74.4%
9	People satisfaction	22	7	15	6	31.8%
10	Supplier and partnership performance	7	2	5	4	28.6%
11	Business results	38	3	35	2	7.9%
	Total for results criteria	*125*	*44*	*81*	-	*28.5 %*
	Total scores	*250*	*104*	*146*	-	*38.5%*

The weakest achievement of the SMMEs in the study was social responsibility (achievement of 0.0%) and the strongest achievement was customer satisfaction (achievement of 74.4%).

Figure 1 graphically represents the results of Table 3.

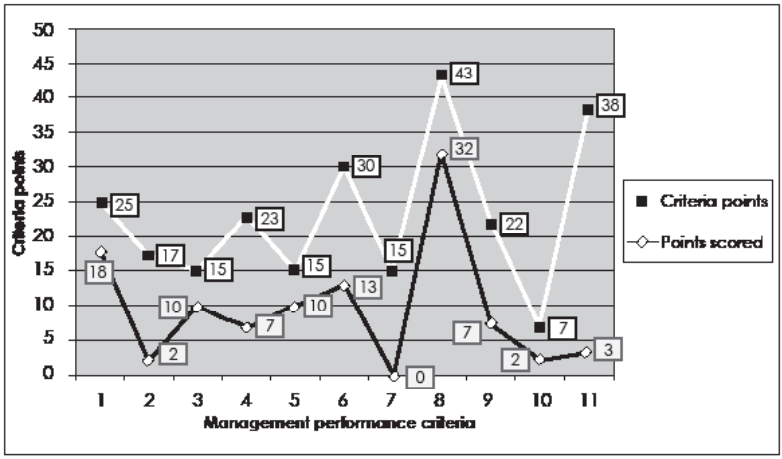

Figure 1: Respondents' position in terms of performance criteria

1: Leadership 2: Strategy and planning 3: Customer and market focus 4: People management 5: Resources and information management 6: Business processes 7: Impact on society 8: Customer satisfaction 9: People satisfaction 10: Supplier and partnership performance 11: Business results.

Figure 1 shows the respondents' position in terms of performance criteria. The criteria points (highest points per criterion) are the world-class best practice points. Below each grid (highest point per criterion) are the average points scored by all the sampled SMMEs.

7.2 SMMEs benchmarks in the built environment

Given the above evaluation results, a benchmark for the South African region SMMEs in the building construction industry could be established. Table 4 shows the actual scores in percentages, the benchmarks set and the deviations from the benchmarks.

Table 4 shows the world-class best practice and the SADC benchmarks established in this study. Each of the criterion scores in the world-class best practice equals 100% and those of the SADC best practice equal 75%.

Table 4: SMMEs' benchmarks in the built environment

Management performance criteria	*World-class best practice*		*SADC best practice*		*SMMEs scores achieved*		*Deviations from world-class best practice*		*Deviations from South African best practice*	
	Actual scores	*Equivalence (%)*	*Actual scores*	*Equivalence (%)*	*Actual scores*	*Equivalence (%)*	*Actual scores*	*Equivalence (%)*	*Actual scores*	*Equivalence (%)*
Leadership	25.00	100.0%	18.75	75.0%	18.00	72.0%	7.00	28.0%	0.75	3.0%
Planning and strategy	17.00	100.0%	12.75	75.0%	2.00	11.8%	15.00	88.2%	10.75	63.2%
Customer and market focus	15.00	100.0%	11.25	75.0%	10.00	66.7%	5.00	33.3%	1.25	8.3%
People management	23.00	100.0%	17.25	75.0%	7.00	30.4%	16.00	69.6%	10.25	44.6%
Resources and information management	15.00	100.0%	11.25	75.0%	10.00	66.7%	5.00	33.3%	1.25	8.3%
Business processes	30.00	100.0%	22.50	75.0%	13.00	43.3%	17.00	56.7%	9.50	31.7%
Total for enabler criteria	*125.00*	*100.0%*	*93.75*	*75.0%*	*60.00*	*48.5%*	*65.00*	*51.5%*	*33.75*	*26.5%*
Social responsibility	15.00	100.0%	11.25	75.0%	0.00	0.0%	15.00	100.0%	11.25	75.0%
Customer satisfaction	43.00	100.0%	32.25	75.0%	32.00	74.4%	11.00	25.6%	0.25	0.6%
People satisfaction	22.00	100.0%	16.50	75.0%	7.00	31.8%	15.00	68.2%	9.25	43.2%
Supplier and partnership performance	7.00	100.0%	5.25	75.0%	2.00	28.6%	5.00	71.4%	3.25	46.4%
Business results	38.00	100.0%	28.50	75.0%	3.00	7.9%	35.00	92.1%	25.50	67.1%
Total for achievement criteria	*125.00*	*100.0%*	*93.75*	*75.0%*	*44.00*	*28.5%*	*81.00*	*71.5%*	*49.75*	*46.5%*
Total scores	*250.00*	*100.0%*	*187.50*	*75.0%*	*104.00*	*38.5%*	*146.00*	*61.5%*	*83.50*	*36.5%*

The maximum achieved management performance for the surveyed SMMEs was approximately 75%. This confirms the possibility of management performance of ≤75%, which is categorised as full achievement and as world-class best practice (SAFRI, 2004: 5). Thus, this leads to the industry benchmark of 75%, which is world-class best practice.

7.3 Management performance levels of SMMEs

The mean ranks were used to establish the ranks of the eleven management performance criteria of the sampled SMMEs.

The following research sub-question was used: What are the mean ranks of management performance criteria of the SMMEs in the building construction industry?

This sub-question sought to establish the ranks of the management performance criteria of the sampled SMMEs. The mean ranks were generated, and then ordered on a scale of one to ten ranks of merit. A lower ranking suggests a poorer management performance and a higher ranking suggests a better management performance. Thus, a management performance criterion showing low mean rank is a reason for poor management performance.

The criteria were grouped according to their effect. The first group included criteria that affected the sampled SMMEs' management performance positively. The second group consisted of criteria that did not affect management performance. The last group included criteria that affected management performance negatively. The initial assumption was that the highest ranked criteria affected management performance positively and that lowest ranked criteria affected it negatively.

It is necessary to determine the cut-off for the high and the low ranked criteria. If, indeed, the high criteria positively affect management performance of these SMMEs, or do not affect it, then they cannot be considered causes or reasons for the SMMEs' low management performances. On the other hand, if the low criteria were found to negatively affect the management performances of these SMMEs, the criteria would then be considered causes or reasons for their low management performances.

Table 5 and Figure 2 present the ranking of the eleven management performance criteria.

Table 5: Ranking of management performance criteria

	Management performance criteria	*Mean rank*	*Order of rank*
1	Leadership	8.25	10
2	Planning and strategy	4.65	3
3	Customer and market focus	8.16	9
4	People management	5.04	4
5	Resources and information	6.66	8
6	Business processes	4.16	2
7	Social responsibility	3.41	1
8	Customer satisfaction	8.63	11
9	People satisfaction	5.36	5
10	Supplier and partnership performance	6.03	7
11	Business results	5.66	6

Source: Adapted from Field 2000: online[2]

Table 5 shows the mean ranks of the eleven management performance criteria for the sampled SMMEs. The last column shows the order of the ranks. Social responsibility showed the lowest score (3.41). It is thus ranked number one (1) and indicates the most serious reason for poor management performance. Customer satisfaction showed the highest score (8.63). It is ranked the highest score of all eleven criteria and thus indicates the least serious reason for poor management performance.

The highest ranked criterion is 'customer satisfaction'. This serves as the yardstick for all other criteria measured for the sampled SMMEs. Thus, the other criteria will be compared to customer satisfaction mean rank. By the expectation implied, if the other criteria had allowed effect to the SMMEs from the effect of this yardstick criterion, it would become a suspected reason for low management performances of these SMMEs.

Table 5 and Figure 2 ranked the management performance criteria in terms of the mean ranks. A criterion with the lower score leads to poorer management. Social responsibility, therefore, needs urgent action in order to improve on the SMMEs' management performance.

Customer satisfaction is the least of severe reasons for improving SMMEs' poor management performance.

2 The order is given from the lowest (1) to the highest (11) mean ranks.

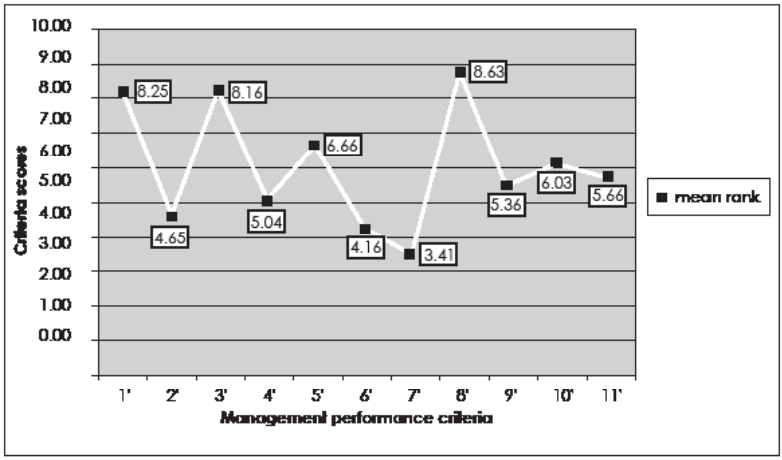

Figure 2: Mean ranking order of management performance criteria

1': Leadership 2': Strategy and planning 3': Customer and market focus 4': People management 5': Resources and information management 6': Business processes 7': Impact on society 8': Customer satisfaction 9': People satisfaction 10': Supplier and partnership performance 11': Business results.

The results of these tests show that the criteria that ranked low are the identified reasons for the low management performance of the SMMEs under investigation. These tests confirmed the 'eyeball' observation results. That is, social responsibility, business processes, planning and strategy, people management, people satisfaction, business results and supplier and partnership performance ranked low in management performance. These criteria proved to be the causes or reasons for the SMMEs' low management performance.

The literature supported these results. Many SMMEs, for example, are not involved in social responsibility programmes, do not use process-oriented performance measurement, and have relatively low levels of planning. These are the businesses that struggle to survive in comparison to those that have developed highly useful and innovative strategies (Gibbons & O'Connor, 2005: 172; Perrini, 2006: 310). In addition, the literature reported inadequate knowledge and lack of sufficient management experience as contributors to poor management performance (Badenhorst *et al*., 2006: 120).

8. Conclusion

Evaluating, benchmarking and ranking of SMMEs management performance in the building construction industry in South Africa revealed a number of criteria with low scores. These were social responsibility, business processes, planning and strategy, people management, people satisfaction, business results, and supplier and partnership performance. Of the eleven management performance criteria evaluated, the three worst performers (those with the lowest scores) were social responsibility, business processes, and planning and strategy. These low scores indicate the reasons for poor management performance of SMMEs.

9. Recommendations

The following recommendations resulted from the study:

- All registered South African building construction SMMEs should be required to evaluate their management performance periodically to remain as building construction industry association members.
- Building construction industry associations in the Gauteng province should establish an annual bulletin that publishes industry, SADC and world-class best management performance scores for benchmarking purposes.
- Provincial and national SMMEs associations should ensure that all top-performing SMMEs are celebrated and rewarded on an annual basis. Government and corporate bodies should contribute to this initiative as part of their SMMEs support initiatives and social responsibility obligations.
- Training support institutions should provide materials and dedicate more time to management performance criteria that scored low; that is, weakest links.
- SMMEs owner/managers should be encouraged to use standardised management performance instruments such as SACEM. This management performance instrument could become a powerful tool for continually improving the individual SMMEs' management performance and for industry and world-class benchmarking purposes.
- Institutions that support SMMEs and owners and managers in the built environment should use the benchmarks set out by this study to improve productivity and to benchmark themselves on an international comparative level.

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