

PRELIMINARY FINDINGS OF SOUTH AFRICAN CONSTRUCTION INDUSTRY-ACADEMIA SURVEY:

PART 1

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1. Introduction

In line with its vision to be the custodian of construction related higher education in the Southern African region and its mission to promote, facilitate, develop and monitor the relevance and quality of construction related curricula, research and graduates in conjunction with higher education institutions, industry and government, the Association of Schools of Construction of Southern Africa (ASOCSA) held several regional meetings during 2008 with representatives of industry. The issues raised during these meetings were collated and developed into a survey instrument that was used to establish the views of industry stakeholders and practitioners and academics at universities and technical colleges in South Africa. This short paper presents the preliminary findings of the survey. The study confirms many initiatives that industry and academia can engage in to improve the image of the sector, quality of graduates and overall development of better relations between industry and academia in the region. A much broader based survey is presently underway using these initial responses.

2. Research Approach

Attendees of the regional meetings were invited via email after the meetings to participate in the study by completing the industry issue survey. All participants in the study were presented with several statements in six categories as follows:

- Government-related issues– 8 statements;
- Education and training related issues– 76 statements;
- Industry related issues– 8 statements;
- Marketing related issues– 4 statements;
- Research related issues – 4 statements; and
- General issues – 11 statements.

They were requested using a 5-point Likert scale to indicate to what extent they agreed with each of the statements where 1=totally disagree; 2=disagree; 3=neutral; 4=agree; and 5=totally agree. They were also requested to indicate which agency would be best positioned to take responsibility for addressing the particular issue, namely academic (A), industry (I) or both jointly (J). The data were analyzed using the Statistical Package for Social Scientists and the descriptive statistics are presented in this the first of a two short papers. This paper addresses government-, industry-, marketing-, research-related and general issues. The second paper will focus on the education and training related issues.

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3. Survey findings

a. Government related issues

Responses to the 8 statements are presented in Tables 1 and 2. The Cronbach α score of reliability for the scaled responses to these issues was 0.94 suggesting that the findings were significantly reliable.

From Table 1 it is evident that almost all respondents (92.9%) agreed that more technical schools needed to be created (mean=4.6) and that government was driving numbers at the expense of quality (mean=4.6). Respondents also agreed that government agencies were not involved in industry-academia forums (85.8%); the NQF had not been communicated to industry (78.6%); and there was not enough involvement in the National Construction Week (64.3%). However, there were mixed responses to the issues of the abuse of RPL, government initiatives negatively affecting the industry; and the removal of work integrated learning from tertiary education with many respondents having neutral views (>20%).

Table 1. Government related issues: Levels of agreement

Statement/Issue	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
More technical schools need to be created	-	-	7.1	28.6	64.3	4.6	0.6
Government is driving numbers at the expense of quality	-	-	7.1	28.6	64.3	4.6	0.6
Government agencies are not involved in industry-academia forums	7.1	-	7.1	42.9	42.9	4.1	1.1
There is not enough involvement in the National Construction week	-	-	35.7	28.6	35.7	4.0	0.9
The National Qualifications Framework (NQF) has not been communicated to industry	7.1	7.1	7.1	64.3	14.3	3.7	1.1
The Recognition of Prior Learning (RPL) is being abused	-	21.4	28.6	14.3	35.7	3.6	1.2
Government initiatives are negatively affecting the industry	7.1	7.1	21.4	42.9	21.4	3.6	1.2
Government wants to remove work integrated learning from tertiary education	28.6	7.1	28.6	14.3	21.4	2.9	1.5

From Table 2 it is evident that relative to most of the issues joint responsibility was suggested. For example, 84.6% agreed that a joint effort by industry and academia was needed to ensure more involvement in the National Construction Week. Further, just more than three-quarters (76.9%) of respondents agreed that jointly industry and academia should encourage government to participate in forums where industry and academia interact. Similarly, industry and academia (75.0%) should address the issue of the creation of more technical schools. To a lesser extent, industry and academia should address government driving numbers at the expense of quality (66.7%). Joint efforts were needed on issues of communicating the implications of the NQF to industry (58.3%) and the negative impact of government initiatives on the sector as a whole (58.3%). Academia should take the lead relative to the perception that government wants to remove work integrated learning

from tertiary education and disseminating the NQF to industry stakeholders while industry should address the impact of government initiatives, programs and policies.

Table 2. Government related issues: Agency responsible for action

Statement/Issue	I (%)	A (%)	J (%)
There is not enough involvement in the National Construction week	7.7	7.7	84.6
Government agencies are not involved in industry-academia forums	15.4	7.7	76.9
Government wants to remove work integrated learning from tertiary education	-	46.2	53.8
Government is driving numbers at the expense of quality	16.7	16.7	66.7
The National Qualifications Framework (NQF) has not been communicated to industry	16.7	41.7	58.3
The Recognition of Prior Learning (RPL) is being abused	8.3	41.7	50.0
Government initiatives are negatively affecting the industry	33.3	8.3	58.3
More technical schools need to be created	8.3	16.7	75.0

b. Industry related issues

Responses to the 8 statements are presented in Tables 3 and 4. The Cronbach α score of reliability for the scaled responses to these issues was 0.80 suggesting that the findings were significantly reliable.

Table 3. Industry related issues: Levels of agreement

Statement/Issue	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
Poaching negatively affects in-house training	-	-	-	57.1	42.9	4.4	0.5
There is a shortage of foremen/supervisors	-	-	25.0	33.3	41.7	4.2	0.8
The mindset of consultants must change	-	-	33.3	16.7	50.0	4.2	0.9
The quality of on-site welfare facilities needs improvement	7.1	-	21.4	42.9	28.6	3.9	1.1
Construction vis-à-vis manufacturing does not compare well in terms of the health and welfare of the workforce	-	14.3	21.4	28.6	35.7	3.9	1.1
The image of the industry is generally negative	-	14.3	35.7	28.6	21.4	3.6	1.0
The average age of foremen is greater than 50 years	25.0	8.3	25.0	16.7	25.0	3.1	1.6
Professional bodies are not concerned about what is produced	25.0	25.0	8.3	25.0	16.7	2.8	1.5

From Table 3, it appears that all respondents (mean=4.4) agreed that poaching of staff and particularly skilled workers negatively affects the desire to do in-house training. Three-quarters of respondents (75.0%) agreed that there was a shortage of foremen and supervisors. Similarly, 71.5% agreed that the quality of on-site welfare facilities needed improvement. Further, 66.7% agreed that the mindset of consultants needed to change, 64.3% agreed that in terms of the health and welfare of construction workers the industry did not compare favourably relative to the manufacturing

sector, and 50% agreed that the image of the industry was generally negative. There were mixed feelings (mean = 2.8) about professional bodies being concerned about what was being produced at universities.

Table 4. Industry related issues: Agency responsible for action

Statement/Issue	I (%)	A (%)	J (%)
The image of the industry is generally negative	18.2	-	81.8
The quality of on-site welfare facilities needs improvement	72.7	-	27.3
The average age of foremen is greater than 50 years	87.5	-	12.5
There is a shortage of foremen/supervisors	66.7	-	33.3
Poaching negatively affects in-house training	90.9	-	9.1
The mindset of consultants must change	50.0	-	50.0
Construction vis-à-vis manufacturing does not compare well in terms of the health and welfare of the workforce	72.7	-	27.3
Professional bodies are not concerned about what is produced	22.2	-	77.8

Table 4 suggests that the joint efforts of both industry and academia are necessary to address the negative image of the industry (81.8%) and the lack of concern by professional bodies about the quality of graduates produced at universities (77.8%). Industry needs to take the initiative to address the issues of poaching of staff and skilled workers (90.9%), the average age of foremen being over 50 years (87.5%), improvement in the quality of welfare facilities on sites and the relatively poor worker health and safety record when compared with the manufacturing sector (72.7%), and the shortage of foremen and/or supervisors (66.7%), and influencing the current mindset of professional bodies (66.7%).

c. Marketing of the industry

Responses to the 4 statements are presented in Tables 5 and 6. Given that there were only 4 scaled items the Cronbach α was extremely low.

Table 5. Marketing related issues: Levels of agreement

Statement/Issue	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
The ASOCSA website must be used for forum discussions	-	-	23.1	53.8	23.1	4.0	0.7
An annual function to honor achievements relative to skills development and training is needed	-	16.7	25.0	50.0	8.3	3.5	0.9
A promotional DVD will improve the image of the industry	7.7	7.7	28.6	30.8	23.1	3.5	1.2
Careers in construction are not promoted	23.1	7.7	23.1	23.1	23.1	3.2	1.5

From Tables 5 and 6, it is evident that most respondents (86.9%) agreed that the ASOCSA website should be used for forum discussions and that these should be driven jointly by both industry and academia (90.0%). Further, 58.3% of respondents agreed that an annual function was needed to honor achievements relative to skills development and training and 53.9% agreed that a

promotional DVD would improve the image of the industry. Both industry and academia jointly should assume responsibility for these initiatives according to 88.9% and 90.0% of respondents respectively.

Table 6. Marketing related issues: Agency responsible for action

Statement/Issue	I (%)	A (%)	J (%)
A promotional DVD will improve the image of the industry	10.0	-	90.0
Careers in construction are not promoted	10.0	20.0	70.0
The ASOCSA website must be used for forum discussions	10.0	-	90.0
An annual function to honor achievements relative to skills development and training is needed	11.1	-	88.9

d. Research related issues

Responses to the 4 statements are presented in Tables 7 and 8. The Cronbach α score of reliability for the scaled responses to these issues was 0.59 which is acceptable for a small number of scaled items given the general rule of thumb of 0.70 for large numbers of scaled items.

Table 7. Research related issues: Levels of agreement

Statement/Issue	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
Feedback from this survey must be included in the Journal of Construction	-	10.0	10.0	30.0	50.0	4.2	1.0
The research needs of the industry are not known	-	-	27.3	54.5	18.2	3.9	0.7
The format of the industry/academia forum at the annual ASOCSA conference needs to be reviewed	-	9.1	27.3	54.5	9.1	3.6	0.8
The Journal of Construction is not distributed widely enough	9.1	27.3	9.1	54.5	-	3.1	1.1

The findings in Table 7 suggest that 80.0% of respondents agreed that feedback from this survey should be included for dissemination in the Journal of Construction. Further, 72.7% of respondents agreed that the research needs of the industry were not known and 63.6% that the format of the industry/academia forum at the annual ASOCSA conference should be reviewed. Just over half (54.5%) agreed that the Journal of Construction was not distributed widely enough.

Table 8. Research based issues: Agency responsible for action

Statement/Issue	I (%)	A (%)	J (%)
The research needs of the industry are not known	11.1	22.2	66.7
The Journal of Construction is not distributed widely enough	11.1	11.1	77.8
Feedback from this survey must be included in the Journal of Construction	-	37.5	62.5
The format of the industry/academia forum at the annual ASOCSA conference needs to be reviewed	-	12.5	87.5

From Table 8, it is evident that industry and academia should assume joint responsibility for reviewing the industry/academia forum at the annual AOCESA conference (87.5%), increasing the distribution of the Journal of Construction (77.8%), identifying the research needs of the industry (66.7%), and the dissemination of the findings of this survey in the Journal of Construction (37.5%). In the last case, academia should lead this initiative.

e. General issues

Responses to the 11 statements are presented in Tables 9 and 10. The Cronbach α score of reliability for the scaled responses to these issues was 0.94 suggesting that the findings were significantly reliable.

Table 9. General issues: Levels of agreement

Statement/Issue	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
Preparatory work for the “bosberaad” is necessary	-	-	-	54.5	45.5	4.5	0.5
Meetings between industry-academia need to be scheduled	-	-	9.1	54.5	36.4	4.3	0.6
The MBSA and HODs do not meet regularly	-	-	30.0	20.0	50.0	4.2	0.9
Industry and academics should meet – “bosberaad” – leaders in industry and ASOCSA to develop vision	-	9.1	9.1	36.4	45.5	4.2	1.0
The interface between industry and academia is inadequate	-	-	18.2	45.5	36.4	4.2	0.8
Industry must participate at ASOCSA academic heads meetings	-	-	18.2	54.5	27.3	4.1	0.7
Industry-academia structures are needed on regional basis	-	10.0	-	60.0	30.0	4.1	0.9
The MBSA does not involve HODs in their annual congress	-	-	50.0	10.0	40.0	3.9	1.0
A national intervention is necessary	-	10.0	30.0	20.0	40.0	3.9	1.1
Regular industry-academia liaison meetings are not held	10.0	-	-	70.0	20.0	3.9	1.1
SAFCEC and the MBSA should drive the “bosberaad” initiative	-	18.2	18.2	36.4	27.3	3.7	1.1

The findings presented in Table 9 suggest that all respondents agreed that preparatory work for a “bosberaad” was necessary between leaders of industry and academia to develop a vision for the industry. Further, 90.9% agreed that meetings between industry and academia need to be scheduled, that industry-academia structures need to be established on a regional basis given that regular meetings are not presently held (90.0%). Further, 81.9% of respondents agreed that there should be a “bosberaad” between industry and academic leaders to develop a vision for the industry. Given that respondents (70.0%) agreed that the MBSA and HODs do not meet regularly, 81.8% of respondents agreed that industry must participate at ASOCSA meetings of academic Heads of Departments (HODs). These findings are confirmed by 81.9% of respondents who agreed that the

interface between industry and academia was inadequate. Other findings of note are that 60.0% of respondents agreed a national intervention was necessary and that SAFCEC and the MBSA should drive the “bosberaad” initiative (63.7%)

Table 10. General issues: Agency responsible for action

Statement/Issue	I (%)	A (%)	J (%)
The interface between industry and academia is inadequate	-	-	100.0
Regular industry-academia liaison meetings are not held	-	12.5	87.5
Meetings between industry-academia need to be scheduled	-	12.5	87.5
The MBSA does not involve HODs in their annual congress	14.3	-	85.7
The MBSA and HODs do not meet regularly	14.3	-	85.7
Industry and academics should meet –“bosberaad” – leaders in industry and AOCS to develop vision	12.5	-	87.5
Preparatory work for the “bosberaad” is necessary	12.5	-	87.5
A national intervention is necessary	14.3	-	85.7
SAFCEC and the MBSA should drive the “bosberaad” initiative	25.0	-	75.0
Industry must participate at ASOCSA academic heads meetings	25.0	-	75.0
Industry-academia structures are needed on regional basis	14.3	-	85.7

From Table 10 it appears that all respondents agreed that industry and academia jointly should be responsible for improving the interface between industry and academia. Further, joint responsibility should be taken for regular scheduled meetings between industry and academia (87.5%). Similarly, most respondents (87.5%) agreed that joint responsibility should be taken for the preparation for and arranging of a “bosberaad” between leaders of industry and academia to develop a vision for the industry. Marginally less respondents (85.7%) agreed that there should be joint responsibility for a national intervention, establishment of regional industry-academia structures, regular meetings between MBSA and HODs and involvement by MBSA of HODs in their national congress.

4. Conclusion

The preliminary findings of the industry-academia survey suggest multiple opportunities for joint action by academia facilitated by ASOCSA and the construction industry facilitated by the MBSA. These include, *inter alia*, the following:

- Government related issues: increasing involvement in the National Construction Week; pressurizing government to create more technical schools; and get government to address issues of quality rather than just numbers.
- Industry related issues: reversing the negative image of the industry; and the lack of concern by construction professional bodies about what type of graduate is produced at universities.
- Marketing issues: using the ASOCSA website for forum discussions and as a marketing and promotional tool; developing a promotional DVD; and arranging an annual function to honor achievements relative to skills development and training.
- Research related issues: reviewing the industry-academia form at the annual ASOCSA conference which this year will be at the Victoria Falls in Zambia from May 17-19; increasing

the distribution of the Journal of Construction; and the identifying the research needs of the industry.

- General issues: improving the interface between industry and academia through more regular and scheduled regional liaison meetings and participation in each other's forums; and convening a national "*bosberaad*" between leaders of industry and academia to develop a vision for the industry.

5. **Conclusion**

It is recommended that a high level meeting between ASOCSA and the MBSA be arranged to develop an agenda and accompanying action plan to address the issues that have been identified in this study on a structured basis with the goal of bringing about incremental improvement. Further, ASOCSA will increase the sample size to further validate the findings of this phase of the study

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