



RESULTS OF THE 2011 SURVEY OF THE

cidb

CONSTRUCTION INDUSTRY INDICATORS

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1. INTRODUCTION

The Construction Industry Development Board (cidb) Act (Republic of South Africa, 2000) was passed in 2000 to establish a statutory body aimed at driving an integrated construction industry development strategy. This body was necessary as the construction industry plays an indispensable role in the South African economy by providing the physical infrastructure which is fundamental to the country's development. The construction industry operates in a uniquely project-specific and complex environment, combining different investors, clients, contractual arrangements and consulting professions. It impacts directly on communities and the South African public at large, and its improved efficiency and effectiveness will enhance quality, productivity, health, safety, environmental outcomes and value for money. In terms of this act, the cidb 'may develop target and performance indicators related to best practice standards and guidelines and establish mechanisms to monitor their implementation and evaluate their impact'.

Construction Industry Indicators (CIIs) have been developed by the Department of Public Works and the cidb with the assistance of the CSIR (van Huyssteen, van Heerden, Perkins and Gyimah, n.d.: Online) to play a useful role in developing a sustainable industry and to be adopted as a tool for improving performance in the South African construction industry. The CIIs of the cidb rely heavily on international experience and particularly those indicators adopted in the United Kingdom. In the United Kingdom the first Key Performance Indicators (KPIs) were published in 1999 in response to the Rethinking Construction report by Egan (1998). These KPIs had three objectives, namely:

- To provide companies and projects with a simple method of establishing a performance measurement system;
- To provide organisations with a straightforward method of benchmarking their performance against others in the construction industry; and
- To track long term trends in performance, and specifically, to demonstrate whether the construction industry was achieving the targets set out in Rethinking Construction.

(Rethinking Standards in Construction, 2006: 3)

Cost, time and quality are the three basic and most important performance indicators in construction projects followed by others such as safety, functionality and satisfaction (Chan and Ada, 2004: 203-221). Based on the Egan report the Movement for Innovation and Construction Best Practice Programme (CBPP) was formed and is now recognised as a leading organisation involved in the production of KPIs within the industry (Beatham, Anumba and Thorpe, 2004: 93-117). The KPIs launched by the CBPP are: client satisfaction, product and service, profitability, productivity, defects, safety, construction time and construction cost. These KPIs were benchmarked within the construction industry and have been very successful in introducing many companies to the subject of

performance measurement (Beatham et al., 2004: 93-117). The UK KPIs are updated annually each June and published by Construction Excellence ([n.d.]: online).

The Australian construction industry is also busy establishing a KPI measurement process. Furneaux, Hampson, Scuderi & Kajewski, (2010) reviewed the current international approaches, evaluated the weaknesses and suggested a format for reporting KPIs at a national level.

The cidb CIIs are project specific indicators which are different from general economic indicators. The cidb CIIs measure the performance of the South African construction industry at individual project level. For completed projects employer satisfaction is measured for project milestone dates achieved, contractors' performance, agents' (consultants') performance, and the quality of materials used. Contractors' satisfaction is measured by their profitability, the performance of the employers and their agents, the quality of the contract documentation, the management of variation orders and claims, payment delays and the performance of their materials suppliers. The procurement indicators measured are obtained from the agents involved and include contractor performance issues evaluated in the adjudication of tenders, the type of procurement procedure used, and the contracting strategy adopted. The agents' satisfaction with the time allowed by employers for planning, delays in the payment of professional fees and deviations by employers from their own approved procurement procedures are also measured.

The literature survey shows that it is mainly in the United Kingdom and South Africa where key performance indicators, at project level, are used to monitor the condition of their construction industries. These indicators are used as a tool to improve industry performance. The quality and professionalism of the different role players involved are tested by several of these indicators.

Annual monitoring of the condition of the South African construction industry by using construction indicators is vital to enable government and other role players to evaluate the impact of current interventions for timely and pro-active implementation of revised legislation, strategies and development programs to act as an updated roadmap for the future wellbeing and growth of the industry. This is the purpose of this research. The cidb CIIs described above have been captured since 2003 and results in a series of annual papers (Marx 2011) presenting the outcomes of this continuous survey project. This is a report on the results of the survey undertaken in 2011 for projects completed in 2010.

2. METHODOLOGY

The performance indicators used are project related. Therefore, contractors registered with the cidb were contacted to obtain information about their projects completed. A database, with contact particulars of contractors, employers and agents involved in 3150 projects completed in 2010, was compiled. Three separate survey forms were faxed or e-mailed to the contractors, employers and agents of these projects. Their responses were captured in a Microsoft Access database. Although the contact particulars of those directly involved in the projects were requested, there was no control over the respondents' actual involvement or in-depth knowledge of the projects. The content of the questionnaires related to the specific key performance indicators monitored. The perspectives of the respondents were determined for different project types, employer categories and provinces. All questionnaires made use of the scale shown in Table 1 to measure satisfaction levels.

Table 1 Definition of the % satisfaction levels

Dissatisfied			Neither satisfied nor dissatisfied				Satisfied		
10	20	30	40	50	60	70	80	90	100

3. SCOPE

The CIIs of the cidb need to evolve from the lessons learned from previous surveys, and are therefore subject to change and refinement. Furthermore, the CIIs used were only mainline indicators. Questions were not asked to pin-point the exact reasons for all problems experienced. The CIIs considered were only the project related indicators. The cidb also measures health and safety and empowerment progress which are not discussed in this report. Other economic indicators such as production prices, and building plans passed are published elsewhere.

From the 3150 completed projects in the database, the contact particulars of 3150 contractors, 2972 employers and 1859 agents were available. Survey forms were received back from 1300 contractors, 592 employers and 555 agents reflecting response rates of 41,3%, 19,9% and 29,9% respectively. The response rate of the contractors was the best because the cidb is of importance to them as they need to be registered at the cidb to obtain government work.

4. DISCUSSION OF THE CONTRACTORS' SURVEY RESULTS

4.1 Contractor survey response distribution per project type and employer category

Table 2 gives the distribution of the 1300 survey forms received from contractors for projects completed in 2010. The number and percentage of survey forms completed are indicated for different employer categories and project types.

Table 2 Contractor survey response distribution per project type and employer category 2010

Project Type	Total No. of Projects	35	17	6	15	18	5	4	0	% of Total Survey Results
Residential Building	119	58	10	12	29	6	3	1	-	9
Non-residential Building	242	103	27	16	49	19	3	25	-	20
Civil Works	480	131	48	28	82	135	43	12	1	37
Mechanical Works	115	70	14	6	10	11	2	1	1	9
Electrical Works	257	66	101	6	18	54	7	5	-	19
Special Works	86	33	21	2	13	7	9	1	-	6
Not specified	1	-	-	1	-	-	-	-	-	0
Total No. of Projects	1300	461	221	71	201	232	67	45	2	
Employer Category		Private Sector	Public Corporation e.g. ESKOM, ACSA	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership	Not specified	

The majority of responses received came from civil works projects (37%), non-residential building projects (20%) and electrical works projects (19%). The results in this report are presented per project type and per client category to ensure that the results for some types of projects do not disappear in the average of all projects.

Projects of the private sector (35%), public corporations (17%) and metropolitan councils (18%) were best represented in the survey. The responses received were well distributed between the different project types as well as between the employer categories. The number of responses received in each category should always be considered when evaluating the results.

4.2 Contractor survey response distribution per contractor financial grade

The contractors are registered with the cidb in different financial grades, indicating their financial capability to complete projects of certain maximum values. The grading is as follows: Grades 1 to 9 correspond with project values of R0,2 million; R0,65 million; R2 million; R4 million; R6,5 million; R13 million; R40 million; R130 million and no limit respectively. Of all the respondents 11 % did not indicate their financial grade. Figure 1 shows a comparison between the distribution of the 1300 survey forms received from different financially graded contractors and the distribution of the financial grades of contractors registered with the cidb.

Grade 1 (small) contractors were not targeted in this survey due to the fact that most of them do not possess a facsimile machine or have an e-mail address. The response received was well distributed as it follows the distribution of the contractors registered in each financial grade. Figure 1 shows that for

the higher financially graded contractors (Grades 5 to 9) the percentage responses received were slightly higher than the percentage of contractors registered in each financial grade. For the lower financially graded contractors (Grades 2 to 4) the opposite was true. It is only the Grade 2 contractors from whom better participation is required for future similar annual surveys.

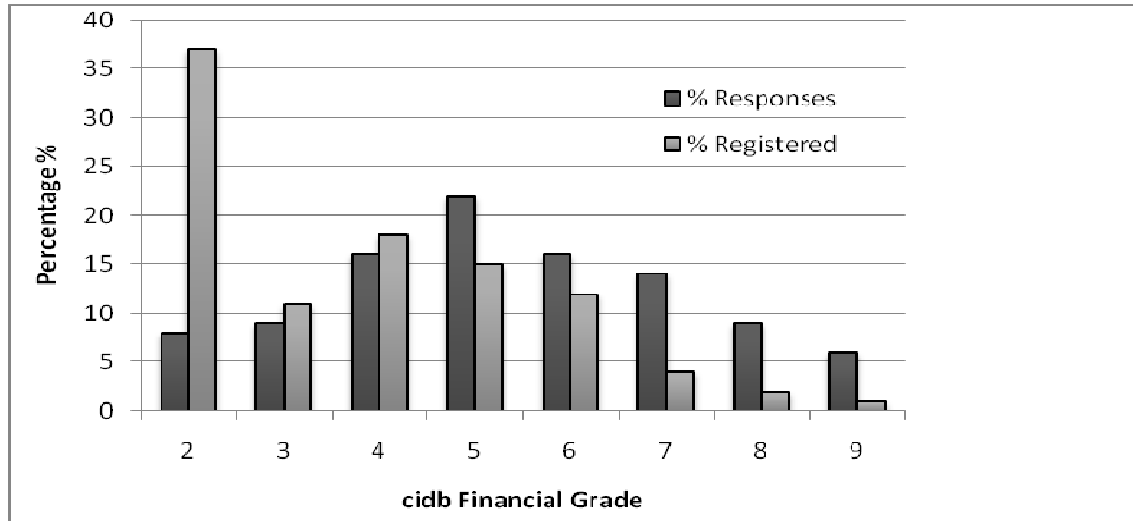


Figure 1 Contractor survey response distribution per contractor financial grade 2010

4.3 Contractor profitability per project type

Table 3 indicates the distribution of contractor profitability for different project types and shows that for 3% of all the projects completed the contractors made a loss.

Table 3 Contractor profitability per project type 2010

Profitability	% of Projects per Project Type						% of all Projects
	Residential Building	Non-residential Building	Civil Works	Mechanical Works	Electrical Works	Special Works	
Loss	2	7	4	3	1	1	3
0 – 5%	34	43	25	17	22	19	27
6 – 10%	35	37	36	20	38	21	35
11 – 15%	20	8	21	34	19	36	20
>15%	9	5	14	26	20	23	15
Project Type	Residential Building	Non-residential Building	Civil Works	Mechanical Works	Electrical Works	Special Works	

The project types, with the highest percentage of projects with profitability of more than 15%, were mechanical works projects (26%), special works projects (23%) and electrical works projects (20%).

If the percentage of projects completed, with 11-15% and more than 15% profit are combined for each project type, the results show that non-residential building projects were far less profitable than all other project types. This may be due to the complexity of non-residential building projects and the large number of parties involved.

Table 4 shows the profitability of contractors per financial grade. It is interesting to note that Grade 2 contractors, who are typically small and less experienced, made a loss on only 2% of their projects. This is better than the loss performance of Grade 8 (10%) and Grade 9 (15%) contractors. Furthermore, if the projects on which a good profit of more than 10% was made are combined the Grade 2 contractors made more than 10% profit on 54% of all their projects which is better than the performance of any of the other higher financially graded groups of contractors.

Table 4 Profitability of contractors per financial grade 2010

Profitability	% of Projects in each Financial Grade							
	2	3	4	5	6	7	8	9
Loss	2	5	1	-	1	4	10	15
0 - 5%	17	34	29	18	36	26	38	25
6 - 10%	27	25	29	44	36	42	34	23
11 - 15%	34	14	26	25	17	18	11	14
>15%	20	22	15	13	10	10	7	23
Contractor Financial Grade	2	3	4	5	6	7	8	9

There is thus no relationship between profit and the financial grade of a contractor. There should be more emphasis on developing good small contractors, and not only to achieve a higher financial grade, as small contractors can make just as good a profit as their larger and higher graded counterparts.

4.4 Performance of the employer and the employer's agents

The contractors' satisfaction with the employer and agents (consultants) was tested with regard to their overall performance, the quality of the tender documents and specifications, and the management of variation orders and claims. Table 5 shows the results obtained with the satisfaction levels as defined in Table 1. The contractors' dissatisfaction level was low for all employer categories with only 0 to 4% of the projects where the overall performance of the employers were dissatisfactory. The metropolitan councils had the lowest percentage of projects (73%) for which the contractors expressed their satisfaction with the overall performance of the employers.

The contractors were dissatisfied with the overall performance of the agents for a slightly higher percentage of projects for all employer categories ranging from 0 to 8%. The reason why the contractors were slightly less satisfied with the agents than with the employers themselves may be that the agents, on behalf of the employers, had to enforce quality and made sure that over-payments were

not made. Agents, working for public corporations, received a satisfactory performance on only 70% of the projects. This was the lowest score for all employer categories.

Table 5 Contractors' level of satisfaction with the employers' and agents' performance 2010

Employer Category	Satisfaction Level: % Distribution														
	D = Dissatisfied			N = Neither satisfied nor dissatisfied						S = Satisfied					
	D	N	S	D	N	S	D	N	S	D	N	S	D	N	S
Private Sector	3	19	78	3	21	76	4	20	76	4	25	71	5	24	71
Public Corporation	4	15	81	8	22	70	2	21	77	4	20	76	5	23	72
National Department	3	14	83	5	17	78	1	23	76	8	23	69	7	28	65
Provincial Department	2	15	83	3	15	82	3	13	84	5	18	77	6	18	76
Metropolitan Council	1	26	73	4	20	76	3	21	76	6	21	73	5	22	73
Regional / District Council	1	21	78	2	15	83	1	18	81	9	15	76	4	27	69
Public Private Partnership	0	16	84	0	6	94	0	16	84	2	13	85	2	7	91
Satisfied with	Employer Overall			Agent Overall			Documentation / Specifications			Management of VO's			Management of Claims		

Table 5 shows that for all employer categories only 0 to 4% of the contractors were dissatisfied with the quality of the contract documentation and specifications. They expressed their satisfaction on 76% or more of all the projects completed.

The management of variation orders (VO's) seem to be problematic for national department projects as the contractors expressed their satisfaction on only 69% of their projects. The contractors were satisfied with the management of VO's and claims on only 71% of the private sector projects. For management of claims, contractors were satisfied with only 65% of national department and 69% of regional district council projects. Projects where the contractors expressed their highest dissatisfaction with the management of VO's were for national department projects (8%) and regional district council projects (9%).

To determine whether the contractors' financial grade played any role in the evaluation of the overall performance of the employer bodies and agents, Table 6 was compiled. As the financial grade increases it is interesting to note growth in the dissatisfaction of contractors with their employers. For Grade 6 to 9 contractors there was a noticeable reduction in the percentage of projects where the contractors were satisfied with their employers. The reason may be that these higher grade contractors are more sophisticated and expect more from their employers.

Grade 2 contractors, who are typically small and less experienced, were dissatisfied with the agents on 10% of their projects. It must be recognised that the agents had to enforce the conditions of contract and in particular the quality of work which might have aggravate the contractors' dissatisfaction.

Table 6 Contractors' level of satisfaction with the employer's and agent's overall performance per contractor financial grade 2010

Satisfaction Level: % Distribution						
	D = Dissatisfied			N = Neither satisfied nor dissatisfied		S = Satisfied
Contractor Financial Grade	D	N	S	D	N	S
2	1	17	82	10	8	82
3	1	6	93	0	9	91
4	1	15	84	3	24	73
5	2	17	81	6	15	79
6	2	24	74	2	17	81
7	4	33	63	6	25	69
8	6	19	75	4	18	78
9	6	20	74	7	30	63
Satisfied with	Employer Overall			Agent Overall		

Table 7 shows the contractors' levels of satisfaction with the overall performance of the employer bodies in different provinces. The value in brackets indicates the number of projects on which the distribution of satisfaction levels was based. The reliability of the data is lower for those employer bodies in provinces where only a few responses were received and this should always be kept in mind.

Contractors were most satisfied with the overall performance of the national departments on projects in the Eastern Cape (91%), Limpopo (100%), Northern Cape (100%), and Western Cape (100%) although the last three 100% scores were based on five or less projects each. The national department in the Free State, Gauteng and North West provinces performed worst with respectively only 75%, 64% and 67% of the projects where the contractors were satisfied with the employers' overall performance.

The contractors were satisfied with the provincial departments on more than 80% of the projects in all the provinces except for the Free State (67%) and Gauteng (67%). The provinces where the metropolitan councils performed worst regarding the percentage of projects where the contractors were satisfied were the Free State (43%), North West (38%) and the Northern Cape (33%).

The regional district councils in the Free State have only 33% of projects with satisfied contractors.

Table 7 Contractors' level of satisfaction with the employers' overall performance per province 2010

Satisfaction Level: % Distribution (The number in brackets is the number of projects involved)																		
Employer Category	D = Dissatisfied			N = Neither satisfied nor dissatisfied			S = Satisfied			D			N			S		
	D	N	S	D	N	S	D	N	S	D	N	S	D	N	S			
Private Sector	0	14 (57)	86	4	11 (27)	85	5	12 (99)	83	3	27 (115)	70	0	20 (30)	80			
Public Corporation	4	20 (25)	76	33	0 (6)	67	9	19 (46)	72	0	9 (33)	91	0	19 (21)	81			
National Department	0	9 (22)	91	25	0 (4)	75	0	36 (14)	64	0	17 (12)	83	0	0 (4)	100			
Provincial Department	7	11 (28)	82	0	33 (12)	67	8	25 (24)	67	0	14 (37)	86	0	10 (29)	90			
Metropolitan Council	0	12 (34)	88	0	57 (7)	43	5	18 (43)	77	0	29 (55)	71	8	23 (13)	69			
Regional / District Council	0	25 (4)	75	0	67 (6)	33	0	25 (4)	75	0	39 (18)	61	0	8 (12)	92			
Public Private Partnership	0	50 (4)	50	0	50 (2)	50	0	100 (2)	0	0	4 (25)	96	-	- (-)	-			
Province	Eastern Cape			Free State			Gauteng			KwaZulu-Natal			Limpopo					

Table 7 (Continued) Contractors' level of satisfaction with the employers' overall performance per province 2010

Satisfaction Level: % Distribution (The number in brackets is the number of projects involved)																		
Employer Category	D = Dissatisfied			N = Neither satisfied nor dissatisfied			S = Satisfied			D			N			S		
	D	N	S	D	N	S	D	N	S	D	N	S	D	N	S			
Private Sector	0	29 (42)	71	0	14 (22)	86	0	40 (10)	60	7	15 (59)	78	0	5 (22)	95			
Public Corporation	0	19 (59)	81	20	20 (5)	60	0	0 (3)	100	0	5 (22)	95	0	5 (22)	95			
National Department	0	20 (5)	80	33	0 (3)	67	0	0 (2)	100	0	0 (5)	100	0	0 (5)	100			
Provincial Department	0	18 (17)	82	0	20 (10)	80	0	0 (4)	100	2	11 (39)	87	0	11 (39)	87			
Metropolitan Council	0	44 (16)	56	0	62 (8)	38	0	67 (6)	33	0	16 (50)	84	0	16 (50)	84			
Regional / District Council	10	0 (10)	90	0	0 (2)	100	0	0 (2)	100	0	0 (9)	100	0	0 (9)	100			
Public Private Partnership	-	- (-)	-	0	0 (1)	100	-	- (-)	-	0	9 (11)	91	0	9 (11)	91			
Province	Mpumalanga			North West			Northern Cape			Western Cape								

4.5 Delays in the start of construction

The contractors were asked whether the employer caused any delays preventing them from starting on site after they provided their guarantees. Table 8 shows that national department employers caused delays at 14% of all their projects while regional / district councils were responsible for delays at 13% of all their projects respectively. These delays are normally related to planning issues such as budget restraints, final approvals, registration of property in the employers' name etc.

Table 8 Employer responsible for delays preventing contractor access to site 2010

Employer Category	% of Projects		
	Yes	No	Not answered
Private Sector	10	90	0
Public Corporation	9	91	0
National Department	14	85	1
Provincial Department	9	91	0
Metropolitan Council	9	91	0
Regional/District Council	13	85	2
Public Private Partnership	9	91	0

4.6 Payment delays

The average number of days delay between certification and receipt of contractor payment of interim and final certificates is shown in Table 9.

Table 9 Days delay between certification and contractor payment per employer category 2010

Avg. Days Delay	% of Projects per Employer Category							% of all Projects
	Private Sector	Public Corporation	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership	
≤ 14	10	11	8	7	6	13	4	9
14 to 30	34	38	44	36	35	31	60	37
30+ to 60	41	41	31	29	45	43	29	39
60+ to 90	9	3	11	13	9	8	5	8
90+ to 120	3	5	3	2	2	5	-	3
120+	3	2	3	13	3	-	2	4
Employer Category	Private Sector	Public Corporation	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership	

The different contract documents used for projects had different requirements regarding timeous payment of certificates, but payment within a month was considered to be reasonable. It is of great

concern that only 46% of all contractors were paid on time (< 30 days). This figure is worse than the 52% obtained from the previous annual survey.

With regard to early payment the metropolitan councils performed the worst, with payments made within 30 days on only 41% of their projects. The best performing client categories with 52% and 64% of project payments made within a month were national departments and public private partnerships respectively. The private sector and public corporations paid their contractors on time on less projects compared to the previous survey. This is for 10% and 15 % less of their projects respectively. On the other hand, regional district councils and public private partnerships paid on time on respectively 7% and 18% more projects than in the survey of the previous year.

The worst performing employers were the provincial departments who paid 28% of their contractors only after 60 days or more. There has been some improvement in the performance of public private partnerships that paid only 2% of their contractors after 90 days compared to 14% in the previous survey.

Contractors refrain from standing up to their contractual right to be paid on time for fear of losing job opportunities in the future. This creates major cash flow problems for contractors and the cidb should communicate this with client bodies.

These payment results are also shown in Table 10 as the percentage of projects with timeous payment to contractors (< 30 days) per employer category in different provinces. The results are disturbing as many employer bodies in various provinces pay only a small percentage of their contractors on time. This table can be used to pin-point those employer bodies where urgent improvement is required. However, one has to keep in mind the impact that a small number of projects has on the reliability of the results.

4.7 Performance of materials suppliers

Contractors were requested to indicate their satisfaction level with the overall performance of the materials suppliers, the ability of the suppliers to keep to their quoted / agreed upon delivery schedules and whether the materials delivered on site complied with the specifications. The results are indicated in Table 11.

The contractors were least satisfied with the overall performance of the suppliers for residential building, electrical works and special works projects where they were satisfied with 72%, 72% and 70% of the projects respectively.

Table 10 Timeous payment (< 30 days) of contractors per province and employer category 2010

Employer Category	% of Projects where Contractor is paid within 30 days (The value in brackets is the number of projects involved)								
	Private Sector	44 (57)	33 (27)	40 (98)	56 (115)	37 (30)	36 (42)	32 (22)	50 (10)
Public Corporation	56 (25)	33 (6)	39 (46)	21 (33)	71 (21)	68 (59)	20 (5)	33 (3)	41 (22)
National Department	55 (22)	75 (4)	50 (14)	25 (12)	50 (4)	60 (5)	33 (3)	50 (2)	100 (5)
Provincial Department	36 (28)	42 (12)	8 (24)	51 (37)	48 (29)	35 (17)	40 (10)	75(4)	61 (38)
Metropolitan Council	50 (34)	57 (7)	42 (43)	27 (55)	31 (13)	25 (16)	13 (8)	0 (6)	65 (49)
Regional / District Council	0 (4)	50 (6)	50 (4)	17 (18)	75 (12)	60 (10)	0 (2)	0 (2)	78 (9)
Public Private Partnership	50 (4)	50 (2)	100 (2)	88 (25)	-	-	100 (1)	-	9 (11)
Province	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	North West	Northern Cape	Western Cape

Table 11 shows that the problem lies with the suppliers' capability to deliver rather than with the quality of the materials. This is so as the percentage of projects where the contractors were satisfied was larger for material delivered per specification than it was for the suppliers' capability to keep to the agreed upon delivery schedule. Generally speaking, the contractors' level of dissatisfaction was very low for all project types.

Table 11 Contractors' level of satisfaction with the materials suppliers' performance per project type 2010

Satisfaction Level: % Distribution									
Project Type	D = Dissatisfied N = Neither satisfied nor dissatisfied S = Satisfied								
	D	N	S	D	N	S	D	N	S
	Residential Building	3	25	72	0	22	78	0	11
Non-residential building	0	17	83	0	17	83	1	13	86
Civil Works	1	20	79	1	21	78	0	11	89
Mechanical Works	1	21	78	1	19	80	1	11	88
Electrical Works	1	27	72	2	25	73	0	21	79
Special Works	0	30	70	0	30	70	0	24	76
Satisfied with	Overall performance			Keep to agreed upon delivery schedule			Material delivered as per specification		

The materials suppliers' overall performance was also evaluated in terms of the contractors' financial grade as indicated in Table 12. With the exception of Grade 8 contractors, there was a tendency for the higher financially graded contractors (Grade 5 to 9) to be less satisfied with their materials suppliers' overall performance. Their projects were larger and it is likely that suppliers could not keep up with the larger orders placed. Table 13 shows the materials suppliers' overall performance per province. Mpumalanga (63%), North West (69%) and the Northern Cape (70%) provinces had the lowest percentage of projects where the contractors were satisfied with the overall performance of the materials suppliers.

Table 12 Contractors' level of satisfaction with the materials suppliers' overall performance per contractor financial grade 2010

Satisfaction Level: % Distribution			
Contractor Financial Grade	D = Dissatisfied	N = Neither satisfied nor dissatisfied	S = Satisfied
	D	N	S
2	3	17	80
3	1	6	93
4	1	16	83
5	1	27	72
6	1	25	74
7	3	28	69
8	0	15	85
9	0	40	60

Table 13 Contractors' level of satisfaction with overall performance of materials suppliers per province 2010

Satisfaction Level: % Distribution			
Province	D = Dissatisfied	N = Neither satisfied nor dissatisfied	S = Satisfied
	D	N	S
Eastern Cape	0	18	82
Free State	3	22	75
Gauteng	0	22	78
KwaZulu-Natal	1	19	80
Limpopo	1	18	81
Mpumalanga	1	36	63
North West	4	27	69
Northern Cape	0	30	70
Western Cape	2	18	80

5. DISCUSSION OF THE AGENTS' SURVEY RESULTS

5.1 Agent survey response distribution per project type and employer category

Table 14 gives a summary of the 555 survey forms received from agents for projects completed in 2010. The number of survey forms completed is indicated for different employer categories and project types, with the purpose to evaluate whether responses were obtained for all types of construction projects and all the different employer bodies.

Table 14 shows that the largest group of responses received were from civil works (43%) and non-residential building projects (26%). Projects of the private sector (24%), provincial departments (18%) and metropolitan councils (35%) were best represented in the survey.

The results are presented per project type and per client category to ensure that the results for less represented project types do not disappear in the average of all projects.

Table 14 Agent survey response distribution per project type and employer category 2010

Project Type	Total No. of projects	24	11	6	18	35	5	1	0	% of Total Survey Results
Residential Building	29	17	1	-	2	4	1	4	-	5
Non-residential Building	145	37	17	10	65	12	2	2	-	26
Civil Works	237	38	19	15	26	121	17	1	-	43
Mechanical Works	16	4	1	2	-	7	1	1	-	3
Electrical Works	100	28	22	5	6	38	1	-	-	18
Special Works	28	7	2	1	2	13	3	-	-	5
Not Specified	-	-	-	-	-	-	-	-	-	0
Total No. of Projects	555	131	62	33	101	195	25	8	0	
Employer Category		Private Sector	Public Corporation e.g. ESKOM, ACSA	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership	Not Specified	

5.2 Contract documentation

The agents indicated the form of contract used for their projects and if significant amendments were necessary such as mitigation of risk and delegation of responsibility. The results are shown in Table 15.

The JBCC form of contract was most popular for residential (69%) and non-residential (70%) building projects as well as for special works contracts (57%). The GCC form of contract was most popular for civil works (82%) and mechanical works (60%) contracts. For electrical works the GCC (27%), NEC (23%) and JBCC (25%) were all popular forms of contract. The GCC (60%) and FIDIC (26%) forms of contract were mostly used for mechanical work contracts. Table 15 also shows that it was necessary to significantly amend the contracts to suit particular needs, especially when the NEC (36%) and FIDIC (39%) forms of contract were used. These were mainly used for mechanical and electrical works projects.

Table 15 Type of contract document used for different project types 2010

Project Type	% Contract Document Type usage for each Project Type					Total
	GCC	NEC	JBCC	FIDIC	OTHER	
Residential Building	21	-	69	-	10	100
Non-residential Building	8	4	70	1	17	100
Civil Works	82	3	2	9	4	100
Mechanical Works	60	-	7	26	7	100
Electrical Works	27	23	25	17	8	100
Special Works	28	4	57	7	4	100
Contract Document Type	GCC	NEC	JBCC	FIDIC	OTHER	
% Projects with Contract Document significantly amended	22	36	18	39	6	

5.3 Contractor performance issues utilised in the adjudication of tenders

Agents were requested to indicate which contractor performance issues were taken into account during the tender adjudication process and the results are indicated in Table 16 for different employer categories.

Table 16 Contractor performance issues used in the adjudication of tenders per employer category 2010

Performance Issues	% of Projects in each Employer Category using different Performance Issues						
	Private Sector	Public Corporation e.g. ESKOM, ACSA	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership
Financial offer	33	23	13	11	5	8	-
Financial offer and preference	19	24	45	34	54	56	50
Financial offer and quality	19	8	10	31	8	4	25
Financial offer, quality and preference	29	45	32	24	33	32	25
Employer Category	Private Sector	Public Corporation e.g. ESKOM, ACSA	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership

Table 16 shows that even the private sector incorporated preference in 48% of all their projects. No longer are price, or price and quality, the only issues evaluated. A large percentage of projects, where financial offer and preference were the only criteria used to allocate tenders, is shown for various employer categories. It is alarming that financial offer and preference were the only criteria

considered for a large percentage of tenders of national departments (45%), metropolitan councils (54%) and regional/district councils (56%). In other words, the quality (i.e. capability, training, performance and track record) of the contractors was considered as being of no importance to select a contractor to do work for the employer. This political strategy to support and build emerging contractors should be re-evaluated by government.

5.4 Procurement procedures used to solicit tenders

Table 17 shows the procurement procedures used to solicit tenders per employer category. Except for the private sector, open tenders were the most popular procurement procedure followed for all employer categories. In the private sector, the popular procurement procedures were negotiated (25%), nominated / selected (30%) and quotations (26%) procedures. Public private partnerships mostly made use of quotations (37%), but negotiated (25%), and open tender procedures (25%) were also popular.

Table 17 Procurement procedures used to solicit tenders per employer category 2010

Procurement Procedure	% of Projects in each Employer Category using different Procurement Procedures						
	Private Sector	Public Corporation e.g. ESKOM, ACSA	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership
Negotiated	25	6	3	25	3	-	25
Nominated / Selected	30	21	6	3	5	-	13
Open	13	45	70	65	84	80	25
Qualified	6	8	9	2	5	16	-
Quotation	26	18	9	4	3	-	37
Two Envelope System	-	2	3	1	0	-	-
Two Stage System	-	-	-	-	-	4	-

5.5 Contracting strategies adopted

The distribution of contracting strategies adopted by different employer categories is shown in Table 18. The design by employer strategy was most popular for all employer categories. However, the provincial departments also used the design and build strategy for 29% of their projects.

5.6 Agents' satisfaction with the time allowed for planning

Table 19 shows the agents' satisfaction level with the time allowed by the employer for project planning with the satisfaction levels as defined in Table 1. Agents expressed their satisfaction with the time allowed for planning for only 50% of public private partnership projects. This was followed with satisfaction on only 70% of the projects from both public corporation and national department. The results further show that agents were dissatisfied with the time allowed for planning for 10% of all public corporation projects and 12% of all national department projects.

If insufficient time is allowed for planning it normally leads to poor contract documentation, many variation orders, additional costs, and time delays that are detrimental to the success of any project.

Table 18 Contracting strategies adopted per employer category 2010

Contracting Strategy	% Projects with Contracting Strategy per Employer Category					
	Private Sector	Public Corporation	National Department	Provincial Department	Metropolitan Council	Regional/District Council
Design & Build	11	8	3	29	4	12
Develop & Construct	5	5	-	4	4	-
Design by Employer	68	79	71	57	83	84
Management Contract	10	4	13	2	2	4
Construction Management	6	4	13	8	7	-
Employer Category	Private Sector	Public Corporation	National Department	Provincial Department	Metropolitan Council	Regional/District Council

Table 19 Agents' satisfaction level with time allowed for planning 2010

Employer Category	Satisfaction Level: % Distribution		
	D = Dissatisfied	N = Neither satisfied nor dissatisfied	S = Satisfied
	D	N	S
Private Sector	6	18	76
Public Corporation	10	20	70
National Department	12	18	70
Provincial Department	4	13	83
Metropolitan Council	4	20	76
Regional / District Council	0	16	84
Public Private Partnership	0	50	50

5.7 Deviation from the tender adjudication procedures

Agents were posed the question whether the employer awarded the tender to the responsive tenderer who achieved the best tender score during the tender evaluation process. The tenders were evaluated by the agents according to the employer's own approved tender evaluation procedures. Non-responsive tenders received were ignored. Table 20 shows the percentage of contracts that were not awarded to the responsive tenderer with the best tender evaluation score per employer category and province. The provincial department of KwaZulu-Natal, Gauteng and Limpopo overruled tender recommendations in 68% and 33% and 31% of their tenders awarded respectively. The metropolitan councils in Limpopo overruled the tender recommendations for 44% of all tenders awarded. On the other hand the national departments performed very well except in the Free State and Mpumalanga. It is important to keep in mind the impact of the number of projects involved in this evaluation. The results are disturbing, bearing in mind that they are not based on the perceptions of aggrieved tenderers, but on the knowledge of the independent agents of the employers. This suggests that there

may be some form of political intervention, manipulation of results or corrupt / fraudulent practices. However, if the tenderer with the best tender score was tied up with too many current commitments and this was not considered during the calculation of the tender points, the tender might have been awarded to someone else. Table 20 shows in which provinces and for which employer categories tender adjudication practices should be investigated.

Table 20 Contracts not awarded to the tenderer with best tender score per employer category and province 2010

Employer Category	% Contracts not awarded to the responsive tenderer with best tender score (The value in brackets is the number of projects involved)								
	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	North West	Northern Cape	Western Cape
Private Sector	23(13)	44 (9)	15 (26)	46 (24)	10 (10)	40(5)	50 (6)	0 (4)	26 (34)
Public Corporation	0 (11)	33 (3)	18 (11)	16 (25)	100 (1)	0 (1)	0 (1)	0 (2)	0 (7)
National Department	0 (5)	40 (5)	0 (6)	0 (3)	0 (2)	33 (3)	0 (3)	0 (3)	0 (1)
Provincial Department	0 (10)	40 (5)	33 (3)	68 (34)	31 (13)	25 (4)	14 (7)	0 (2)	11 (18)
Metropolitan Council	9 (23)	0 (13)	9 (35)	10 (41)	44 (9)	0 (17)	14 (7)	11 (9)	5 (41)
Regional / District Council	0 (3)	-	-	0(11)	0 (1)	0 (3)	33 (3)	50 (2)	0 (2)
Public Private Partnership	-	-	100 (1)	0 (1)	-	0 (1)	-	0 (1)	67 (3)
Province	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	North West	Northern Cape	Western Cape

5.8 Professional fee payment delays

The average number of days delay between submission of professional fee accounts and receipt of payment is shown in Table 21. The agents' fees were paid within 30 days for only 48% of all projects completed. The worst early paying employers were the regional district councils who only paid 28% of their agents within 30 days. On the other hand provincial departments were the best early payers who paid 61% of their agents within 30 days. The employers who paid the largest number of their agents only after 60 days were the national departments (27%), metropolitan councils (16%) and regional district councils with 20%.

Table 22 shows timeous (< 30 days) payment of agent's fees per province and employer category that can be used to more specifically evaluate the performance of employers. The results are quite disturbing, bearing in mind that the employers were in breach of the contracts with their agents. Agents refrain from standing up to their contractual right to be paid on time for fear of losing new project appointments in the future.

Table 21 Payment delay of agents' fees per employer category 2010

Avg. Days Delay	% of Projects with Payment Delay per Employer Category							% of all Projects
≤ 14	17	8	12	27	3	4	0	11
14 to 30	34	35	37	34	43	24	37	37
30+ to 60	36	45	24	25	38	52	50	36
60+ to 90	7	10	21	7	9	8	13	9
90+ to 120	4	2	0	3	2	0	0	3
120+	2	0	6	4	5	12	0	4
Employer Category	Private Sector	Public Corporation	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership	

Table 22 Timeous payment (< 30 days) of agents per employer category and province 2010

Employer Category	% of Projects where the agent is paid within 30 days (The value in brackets is the number of projects involved)								
Private Sector	46 (13)	44 (9)	58 (26)	50 (24)	40 (10)	40 (5)	50 (6)	0 (4)	59 (34)
Public Corporation	20 (10)	100 (3)	27 (11)	48 (25)	-	0 (1)	0 (1)	50 (2)	71 (7)
National Department	40 (5)	67 (6)	33 (6)	75 (4)	50 (2)	33 (3)	0 (3)	67 (3)	100 (1)
Provincial Department	33 (9)	20 (5)	33 (3)	84 (38)	77 (13)	0 (4)	57 (7)	0 (2)	47 (17)
Metropolitan Council	48 (23)	69 (13)	51 (35)	34 (41)	22 (9)	18 (17)	29 (7)	56 (9)	64 (39)
Regional / District Council	0 (3)	-	-	36 (11)	0 (1)	0 (3)	67 (3)	0 (2)	50 (2)
Public Private Partnership	-	-	50 (2)	0 (1)	-	100 (1)	-	0 (1)	33 (3)
Province	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpumalanga	North West	Northern Cape	Western Cape

5.9 Agents who tendered for projects

Table 23 shows the percentage of projects per employer category where agents became involved by tendering for work. Agents working for metropolitan and regional / district councils tendered for 67% and 72% of all their projects respectively. The low tender percentages for provincial departments (22%) and national departments (31%) indicate that they still procure professional services by means of a roster system.

Table 23 Agents who tendered for projects per employer category 2010

% of Projects where Agents tendered for work						
19	50	31	22	67	72	29
Private Sector	Public Corporation e.g. ESKOM, ACSA	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership
Employer Category						

6. DISCUSSION OF THE EMPLOYERS' SURVEY RESULTS

6.1 Employer survey response distribution per project type and employer category

Table 24 provides a summary of the 592 survey forms received from employers for projects completed in 2010. The number of survey forms completed is indicated for different employer categories and project types.

Table 24 Employer survey response distribution per project type and employer category 2010

Project Type	Total No. of projects	26	21	6	13	28	4	2	0	% of Total Survey Results
Residential Building	50	20	4	2	15	7	1	-	1	8
Non-residential Building	116	49	21	6	20	11	4	5	-	20
Civil Works	224	43	34	9	26	92	16	4	-	38
Mechanical Works	41	8	8	14	5	5	1	-	-	7
Electrical Works	115	16	39	4	6	47	2	1	-	19
Special Works	46	20	17	-	2	3	1	3	-	8
Not Specified	-	-	-	-	-	-	-	-	-	0
Total No. of Projects	592	156	123	35	74	165	25	13	1	
Employer Category		Private Sector	Public Corporation e.g. ESKOM, ACSA	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership	Not Specified	

The table shows that the majority of responses were for civil works (38%), non-residential building projects (20%), and electrical works projects (19%). Projects of the private sector (26%), public corporations (21%) and metropolitan councils (28%) were best represented in the survey. The results

are presented per project type and per employer category to ensure that the results for less represented project types do not disappear in the average of all projects.

6.2 Construction commencement and finish on time

Table 25 shows the percentage of projects with the project commencement and completion dates achieved for different project types and employer categories. It is not known whether the reason for a late start was contractors who could not produce their guarantees on time, or employers who did not have the sites ready to hand over to the contractors. Table 25 shows that 94% of all projects started on time and 86% of all projects finished on time. The finish on time date included any normal extension of time allowed for by the contract. The project type with the lowest percentage completion on time was electrical projects with 79%. The public private partnership was the employer category with the lowest rate for timeous completion (77%). It is not known if the reason for late completion is lack of contractor capacity, managerial skills, finances, know-how or perhaps unrealistic construction periods specified by agents or employers.

Table 25 Project start and completion on time 2010

Project Type	Start on Time %	Finish on Time %
Residential Building	94	84
Non-residential Building	97	84
Civil Works	96	87
Mechanical Works	95	93
Electrical Works	87	79
Special Works	98	93
Overall	94	86

Employer Category	Start on Time %	Finish on Time %
Private Sector	97	92
Public Corporation	96	88
National Department	97	82
Provincial Department	93	81
Metropolitan Council	89	81
Regional / District Council	92	92
Public Private Partnership	100	77

6.3 Employer satisfaction

Table 26 shows the level of employer satisfaction for different project types with the satisfaction levels as defined in Table 1. These are their satisfaction with the performance levels of the agents and

contractors and the quality of materials used. The employers were satisfied with their agents' overall performance for 93% of residential building projects and 91% of special works projects. Their lowest satisfaction was expressed for mechanical works projects where they were satisfied with only 77% of the projects and they were further dissatisfied with 8% of all the projects.

Table 26 Employers' level of satisfaction per project type 2010

Satisfaction Level: % Distribution																		
Satisfied with	D = Dissatisfied			N = Neither satisfied nor dissatisfied						S = Satisfied								
	D	N	S	D	N	S	D	N	S	D	N	S	D	N	S	D	N	S
Overall performance of Agents	0	7	93	2	13	85	2	14	84	8	15	77	2	20	78	2	7	91
Overall performance of Contractors	2	8	90	3	11	86	3	11	86	5	7	88	4	17	79	2	11	87
Ability of Main Contractor to finish on time	6	4	90	4	16	80	5	10	85	5	12	83	11	9	80	2	17	81
Quality of Completed Work	0	20	80	1	15	84	1	13	86	3	7	90	10	7	83	0	17	83
Main Contractor's Resolution of Defect Work	4	14	82	1	18	81	0	16	84	2	20	78	2	17	81	2	17	81
Work Defect Free at Practical Completion	2	36	62	3	29	68	1	22	77	3	34	63	1	23	76	2	17	81
Overall Quality of Material used	0	8	92	3	10	87	0	11	89	3	7	90	10	5	85	0	9	91
Project Type	Residential building			Non-residential building			Civil Works			Mechanical Works			Electrical Works			Special Works		

The employers were satisfied with their contractors' overall performance with the highest satisfaction levels expressed for residential building projects (90%) and mechanical works projects (88%). However, for mechanical works projects the highest dissatisfaction level of 5% was also expressed.

For the ability of the main contractor to finish on time the employers expressed their highest satisfaction level for residential building projects (90%) and the highest dissatisfaction level for electrical works projects (11%).

For the quality of completed work the employers expressed their satisfaction with 90% of the mechanical works projects and their dissatisfaction with 10% of the electrical works contracts.

Civil works projects received the highest satisfaction (84%) for the main contractors' resolution of defective work. For work defect free at practical completion the lowest satisfaction level was expressed for residential building projects (62%) and mechanical works projects (63%).

Employers were in general very satisfied with the quality of materials used, but were dissatisfied with the quality of materials used at 10% of their electrical works projects.

Table 27 shows the employers' satisfaction level with the overall performance of the contractors per province. There is an indication of low performance for certain project types in various provinces although the results were in some cases obtained from only a few survey responses. Employers were satisfied with the overall performance of electrical works contractors for only 62% of the projects in the Eastern Cape, 68% in Gauteng and 67% in the North West province. Employers were satisfied with the overall performance of residential building contractors for only 33% of the projects completed in Gauteng. The overall performance of contractors was satisfactory on only 40% of civil works projects in the Northern Cape and 67% of special works projects in the Northern Cape.

Table 27 Employers' level of satisfaction with the overall performance of contractors per province 2010

Satisfaction Level: % Distribution															
Project Type	D = Dissatisfied N = Neither satisfied nor dissatisfied S = Satisfied (The value in brackets is the number of projects involved)														
	D	N	S	D	N	S	D	N	S	D	N	S	D	N	S
Residential Building	0	0 (5)	100	-	- (-)	-	17	50 (6)	33	0	11 (9)	89	0	0 (4)	100
Non-residential Building	0	13 (16)	87	0	0 (2)	100	4	11 (27)	85	3	11 (28)	86	0	14 (7)	86
Civil Works	3	11 (37)	86	0	8 (12)	92	3	9 (33)	88	0	5 (55)	95	0	0 (11)	100
Mechanical Works	0	0 (11)	100	0	0 (1)	100	11	0 (9)	89	0	0 (3)	100	0	0 (2)	100
Electrical Works	0	38 (8)	62	0	0 (1)	100	5	27 (37)	68	5	4 (22)	91	0	7 (14)	93
Special Works	0	0 (3)	100	0	0 (1)	100	0	20 (10)	80	8	9 (12)	83	0	0 (2)	100
Province	Eastern Cape			Free State			Gauteng			KwaZulu-Natal			Limpopo		

Table 27 (Continued) Employers' level of satisfaction with the overall performance of contractors per province 2010

Satisfaction Level: % Distribution (The value in brackets is the number of projects involved)												
Employer Category	D = Dissatisfied			N = Neither satisfied nor dissatisfied			S = Satisfied					
	D	N	S	D	N	S	D	N	S	D	N	S
Residential Building	0	0 (4)	100	0	0 (1)	100	0	0 (5)	100	0	0 (16)	100
Non-residential Building	0	0 (4)	100	0	0 (3)	100	0	0 (1)	100	4	14 (28)	82
Civil Works	4	11 (27)	85	0	0 (5)	100	20	40 (10)	40	6	22 (32)	72
Mechanical Works	0	20 (5)	80	-	- (-)	-	-	- (-)	-	10	20 (10)	70
Electrical Works	0	8 (12)	92	0	33 (3)	67	0	0 (3)	100	7	20 (15)	73
Special Works	0	0 (5)	100	0	0 (1)	100	0	33 (3)	67	0	11 (9)	89
Province	Mpumalanga			North West			Northern Cape			Western Cape		

6.4 Employers' own capacity

Table 28 shows the percentage of contracts per employer category where agents were not appointed. The national departments and regional district councils delegated all their project design work to agents except for 3% and 4% of their projects respectively. This indicates that there is nearly no departmental capacity in among others the engineering, architectural and quantity surveyor fields of work. Furthermore, it is quite likely that the projects they handled themselves were projects such as large refurbishment contracts where technical and professional expertise was not required. It is of great concern that role players in the construction industry have to communicate with officials in government departments who have no or very little understanding of the contractual procedures and technical complexities inherent to construction projects.

Table 28 Employer's own capacity per employer category 2010

% of Projects where Agents were not appointed						
6	9	3	19	12	4	0
Private Sector	Public Corporation e.g. ESKOM, ACSA	National Department	Provincial Department	Metropolitan Council	Regional / District Council	Public Private Partnership
Employer Category						

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

The main findings of the 2011 survey for projects completed in 2010 were as follows:

- 1) Contractors made a loss on 3% of all projects completed.
- 2) Mechanical (26%), special (23%) and electrical (20%) works projects showed the highest percentage of projects with contractor profit larger than 15%.
- 3) Non-residential building projects were least profitable for contractors.
- 4) There was no relationship between profit and the financial grade of contractors, as small contractors made just as good a profit as the higher graded contractors.
- 5) The contractors' dissatisfaction with the overall performance of their employers was low (0 to 4% of projects) for all employer categories.
- 6) The contractors' dissatisfaction with the overall performance of the agents was also low, but slightly higher (0 to 8% of projects) than for their employers.
- 7) Metropolitan councils had the lowest percentage of projects (73%) completed where the contractors expressed their satisfaction with the overall performance of the employer. There was a growth in the dissatisfaction of contractors with the overall performance of their employers as their financial grade increased.
- 8) Contractors expressed their satisfaction with the quality of the documentation and specifications for 76% of all projects completed.
- 9) The management of variation orders (VO's) seemed to be problematic for national department projects as the contractors expressed their satisfaction on only 69% of the projects. Projects where the contractors expressed their highest dissatisfaction with the management of VO's were for national department projects (8%) and regional district council projects (9%).
- 10) For management of claims, contractors were satisfied with only 65% of national department and 69% of regional district council projects.
- 11) Only 46% of all contractors were paid on time (within 30 days). This performance was lower than the 52% result of the previous survey.
- 12) With regard to early payment the metropolitan councils performed the worst, with payments made within 30 days on only 41% of their projects.
- 13) The worst paying performance employers were the provincial departments who paid 28% of their contractors only after 60 days or more.

- 14) The contractors were least satisfied with the overall performance of the materials suppliers for residential building, electrical works and special works projects where they were satisfied with 72%, 72% and 70% of the projects respectively.
- 15) It is of great concern that contractor quality was discarded as being of any importance for a large percentage of tenders allocated to contractors by national departments (45%), metropolitan councils (54%) and regional/district councils (56%).
- 16) Agents were satisfied with the amount of time allowed for planning for only 50% of public private partnerships projects. The largest percentage of projects for which they expressed their dissatisfaction was 10% for public corporation projects and 12% for national department projects.
- 17) There was a strong indication of some form of political intervention, manipulation of results or corrupt / fraudulent practices in the tender adjudication procedures of some employer bodies.
- 18) Only 48% of agents were paid on time within 30 days.
- 19) Agents working for metropolitan and regional / district councils tendered for 67% and 72% of all their projects respectively. Provincial departments and national departments made more use of a roster system to procurement professional services.
- 20) Employers indicated that 94% of their projects started on time and 86% finished on time. Only 79% of electrical works projects were finished on time.
- 21) Employers were satisfied with the overall performances of their agents for 77% to 93% of the projects completed.
- 22) Employers were satisfied with the overall performance of the contractors for 79% to 90% of the projects completed. Dissatisfaction was expressed for 5% of mechanical works projects.
- 23) The employers were dissatisfied with the ability of electrical works contractors to finish on time for 11 % of their projects and with the quality of the completed work for 10% of electrical works projects.
- 24) Employers were dissatisfied with the quality of materials used for 10% of electrical works projects.
- 25) Employer bodies have very little in-house capacity.

7.2 Recommendations

The following recommendations stem from this research:

- 1) Government should address the problems leading to late payment of contractors and agents.
- 2) The results suggest that corrupt / fraudulent tender allocations occurs in various government departments in various provinces that need urgent investigation.

- 3) The own capacity of government departments should be grown by appointing skilled and professionally qualified engineers, architects and quantity surveyors in key positions.
- 4) There should be more emphasis on developing good small contractors, and not only to achieve a higher financial grade, as small contractors can make just as good a profit as their larger and higher graded counterparts.
- 5) This research should be continued annually to be able to track trends over time.
- 6) While focussing on the implications of these findings for the South African context, other countries can also derive information from this report which can assist them in implementing a similar construction industry performance measuring system.

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