

STP and SSACI

Incubator Benchmark Study
Generic Report

Review and Benchmarking of South
African Business Incubators funded by
SEDA Technology Programme
Final Report 20 October 2014

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1. Background

The Swiss-South African Cooperative Initiative (SSACI) and the SEDA Technology Programme of the Small Enterprise Development Agency (STP) contracted DevCom to conduct a review and benchmarking exercise on business and technology incubators currently operating in South Africa, especially those that are supported by STP.

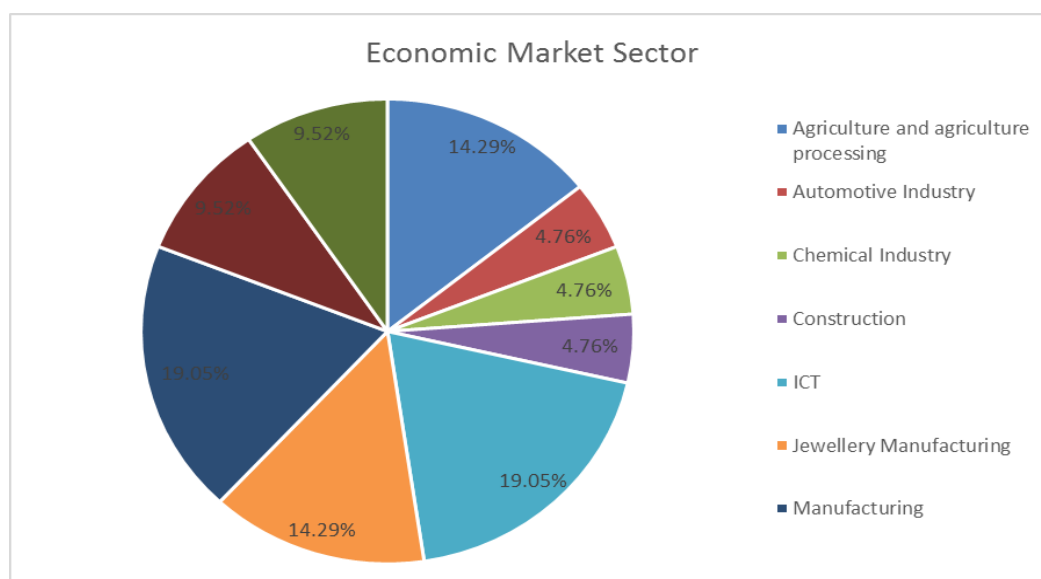
This knowledge-production exercise has a developmental purpose and is intended to:

- inform decisions by government agencies such as SEDA on their strategy for supporting small enterprises through business and technology incubators,
- inform the thinking and activities of other public or private-sector agencies with an interest in small enterprise development,
- enable incubators with which STP and SSACI work to benchmark their performance against industry standards,
- contribute to evidence-based best practice in business incubation for emerging entrepreneurs and small enterprises.

21 Incubators across nine economic market sectors (funded by STP) submitted information for the benchmarking study.

Market Sector Analysis

Economic Market Sector	# Incubators in sector cluster	Percentage
Agriculture and agriculture processing	3	14.29
Automotive Industry	1	4.76
Chemical Industry	1	4.76
Construction	1	4.76
ICT	4	19.05
Jewellery Manufacturing	3	14.29
Manufacturing	4	19.05
Metals	2	9.52
Mining and Energy	2	9.52



Four or 19.05% of the Incubators are in the ICT sector and another four (19.05%) in the Manufacturing sector. Three (14.29%) falls in the Agriculture and Agriculture processing sector while another three (14.29%) Incubators falls within the Jewellery Manufacturing sector.

2. Research process and methodology

The benchmarking study considered both the quantitative data obtained from the Key Performance Indicator sheet and annual reports to SEDA, and qualitative data obtained from the annual reports and the official websites of the incubators.

2.1 Process to gather data

The first point of contact in data gathering was STP. Acting head of the division, Mr. Soga, agreed to the study and to assist with the provision of the information. The contracting period was discussed and agreed between January and February, and the team were asked to provide the information in March. A meeting was setup with Mrs. Brauns and her team in May to discuss the information DevCom would need to complete the benchmark study.

SEDA agreed to provide DevCom with all the reports in soft copy initially. A couple of reports were provided but these were reports spread over a three year timeframe, not following on each other. DevCom could not work with the reports received as no consistent comparative dataset could be concluded from these reports. A reconciliation was emailed to SEDA requesting the quarterly reports for every incubator on their list.

During a meeting with Mr. Soga and Mrs. Brauns the reports received and the incompleteness of the reports were discussed. They agreed to provide hard copies of 2014's quarterly reports for DevCom to pick up from their office.

The reports was collected and analysis started at the end of July. During analysis of the reports received, it was clear that the information was still not sufficient to provide a full dataset of comparable information.

DevCom received 19 quarterly reports from SEDA, of which only 11 has enough data to compare. The full set of KPI's are either not included or no financials were given. For the 11 that could be compared, DevCom could only concentrate on the seven core KPI's that SEDA focus on, as most of the incubators only report on these in a short table. Some have the KPI sheet to make use of. Most of the incubators did not have financial data in their submission.

On the 29th of August the decision was made to contact the Incubators directly to gather all needed information. With consistent follow up DevCom have had success in gathering most of the data needed for the agreed framework of the benchmark study by the end of September. Data analysis took place during October.

The following information requested in the framework was not available for the study:

- Incubator's own business strategy,
- Incubator's recommended strategies for client businesses,
- Full outputs to date.

The project took 265 hours to complete.

Meetings	11 hours
Follow up calls and emails	40 hours
MOU	6 hours
Report Collection and Admin	69 hours
Research and analysing of data	114 hours
Report writing and editing	25 hours
Total Hours spent	265 hours (33 working days @ 8 hours per day)

2.2 Research methodology

a. Quantitative statistical analysis

The quantitative statistical analysis was conducted by the Statistics Department of the University of Pretoria. The statisticians used the KPI's to create two datasets, to cluster statistically similar incubators together. The clustered datasets were then compared, verified and analysed in context with the qualitative data. Values were neutralised and then compared as equal units for a pure statistical analysis.

The first clustering dataset is based on grouping the Incubators together based on performance focussed areas, independent of cost. The second clustering is based on performance areas in relation to cost.

b. Qualitative analysis

For the qualitative interpretation of the report, content analysis to find the predefined concepts for the benchmarking study was used.

2.3 Key definitions and interpretations

Output based objectives measure values or increases against set numbers and goals. Output based objectives forum on the direct output of a specific tactics, i.e. SMMEs established.

Outcome based objectives measure what the business or economic impact is. The outcome based objectives focus on the strategic activities and is strategic in nature, i.e. the number of direct jobs created or the survival rates, and the economic contribution of the incubators and SMMEs.

SEDA pointed the output KPIs out as the one that they focus on most. From our observation there isn't an emphasis on the outcome KPIs. Throughout the report mention is made of the focus on output KPIs, especially in the analysis of the clusters of incubators grouped together by statistical data trends.

2.4 Next steps:

- a) STP will receive feedback as agreed. Mr. Soga is no longer the acting head. He has been replaced by Mrs. Nozipho Khonkwane, with whom DevCom did previous work when she was head of the Seda Gauteng Region.
- b) The next steps will start with generate a public report where the identities of the agencies are hidden
- c) An executive summary will be created that will be the basis of conversations, media and other awareness of the results of the study
- d) Each incubator will receive feedback individually with a written report specifically about their performance against the averages and their contribution to the total impact.
- e) We suggest a small event or morning workshop where the results are presented to the media and key players in the enterprise development market
- f) Development of an annual incubation effectiveness index. The data lends itself to be developed into an index and annual study where incubators can increase their scores and focus on improved outcome objectives. If SSACI or STP are interested in developing this project into an annual product, we can provide a quotation for the services.

3. Key definitions

# new SMME's established	Total number of new SMME's established during the quarter. This will include only SMME's either established during the quarter or SMME's that were non-trading until the quarter. Year total is cumulative.
# new projects initiated	Total number of Projects established during the quarter. Year total cumulative.
# clients supported	Total no. of clients: SMME's, projects and tenant companies receiving support at the end of the quarter. Year total = Quarter 4 figure.
# SMME's supported	No. of SMME's supported during the quarter. This includes all SMME's (newly established plus existing / trading SMME's) that are receiving support (tenancy, consulting, coaching / mentoring, etc.) at the end of the quarter. Year total is = Quarter 4 figure
% SMME's that survived 1 st year	This will only take into account SMME's that have had, or would have had, their 1 st anniversary (trading as an entity) in the previous quarter. No of SMME's that survived their 1 st year over total SMME's created in the previous quarter of the previous year. No. of SMME's that have survived their 1st year of business since joining the incubator, i.e. their 1 st anniversary must be within the previous quarter. This also includes SMME's that graduated from the incubator before their 1 st anniversary and still survived their 1 st year within the previous quarter
% SMME's that survived 2 nd year	The number of SMME's that have survived their 2 nd year of business.
No of Graduations	# Successful SMME's that have graduated from the incubator.
# Black owned SMME's established	Black owned > 50% Black shareholding. # Black owned SMME's established during the quarter. This will include only SMME's either established during the quarter or SMME's that were non-trading until the quarter.
% Black owned SMME's established	# Black owned SMME's established during the quarter over the total # SMME's established during the quarter. Year total rolling average.
# Black empowered SMME's established	Black Empowered > 25% and <= 50%. Black shareholding. # Black empowered SMME's established during the quarter. This will include only SMME's either established during the quarter or SMME's that were non-trading until the quarter.
% Black Empowered SMME's established	# Black empowered SMME's established during the quarter over the total # SMME's established during the quarter. Year total rolling average.
# Black owned (Participation) projects initiated.	Black owned (participation) > 50% Black team members. # Black owned (participation) Projects initiated during the quarter. This only includes all projects that actually entered the incubation programme within the quarter. Year total cumulative.
% Black owned (Participation) Projects initiated	# Black owned (Participation) Projects initiated in the quarter over total # projects initiated in the quarter. Year total rolling average.

# Black owned Projects/SMME's in portfolio	Total # black owned SMME's & Projects in portfolio during the quarter. This includes all projects and SMME's that are actually supported by the incubator (virtual or tenancy) at the end of the quarter. Year total = Quarter 4 figure.
% Black owned SMME's / Projects in portfolio	Total # Black owned Projects/SMME's in portfolio at the end of the quarter over Total # of Projects/SMME's in portfolio at the end of the quarter. Year total = Quarter 4 figure.
# Woman owned SMME's established	Woman owned > 50% Women shareholding. # Woman owned SMME's established during the quarter. This will include only SMME's either established during the quarter or SMME's that were non-trading until the quarter. Year total cumulative.
% Woman owned SMME's established	Total # woman owned SMME's established in the quarter over Total # SMME's established in the quarter. Year total rolling average.
# Woman empowered SMME's established	Women Empowered > 25% and </= 50%. Women shareholding. # Woman empowered SMME's established during the quarter. This will include only SMME's either established during the quarter or SMME's that were non-trading until the quarter. Year total cumulative. Supporting documentation – Same as those for Black Empowered.
% Woman empowered SMME's established	Total # Woman empowered SMME's established during the quarter over Total # SMME's established during the quarter. Year total rolling average.
# Woman owned (Participation) Projects initiated	Woman owned (participation) > 50% Woman team members. # Woman owned (participation) Projects established during the quarter. This only includes all projects that actually entered the incubation programme within the quarter. Year total cumulative. Supporting documentation - MoU or NDA...
% Woman owned (Participation) Projects initiated	Total # Woman owned projects initiated during the quarter over Total # Projects initiated during the quarter. Year total rolling average.
# Woman projects/SMME's in portfolio	Total # Woman owned SMME's & Projects in portfolio during the quarter. This includes all projects and SMME's that are actually supported by the incubator (virtual or tenancy) at the end of the quarter. Year total = Quarter 4 figure.
% Woman owned projects/SMME's in portfolio	Total # Woman owned Projects/SMME's in portfolio at the end of quarter over Total # of Projects/SMME's in portfolio at the end of the quarter. Year total = Quarter 4 figure.
# Jobs (direct) created	# New staff members at existing or newly established SMME's & Projects (taken on during the quarter). Only jobs that have the ability to be sustainable can be included here - does not include casual positions of less than six months duration. Year to date total cumulative.
Funds raised (Rm's)	Amount of funds raised by the centre on behalf of SMME's & Projects (actual funds need to be committed / paid during the quarter). This can also include the value of in-kind services, eg. Machinery, equipment and human resources that were raised by the centre on behalf of the SMME and Projects. Year total is cumulative.
# Casual / Seasonal jobs created	The number of casual or seasonal jobs (jobs less than six months in duration) created in the quarter. Year to date total cumulative.

# Jobs (indirect) created	Use the STP multiplier = direct jobs X 2.1. If any casual or seasonal jobs are created, then a third of the indirect jobs created thereof will be counted in. Year total is cumulative.
# New prospects entering pipeline	No of new projects that have gone through initial screening stage and are now being considered for incubation. This only includes all projects that have gone through initial screening and info gathering sessions and the centre has made a firm commitment to take them into the incubator, as virtual clients or full tenancy clients. Year total cumulative. Supporting documentation - written communication between the 'prospective projects' and centres (i.e. E-mails or a Letter of Intent) or a short report of each highlighting the level of assistance provided to each project by the centre.
Total SMME t/o at start of FY (R's)	This is usually provided by incubatees. It is the total SMME turnover at the end of the previous financial year.
Total SMME t/o at end of FY (R's)	This is usually provided by incubatees. It is the total SMME turnover at the end of the current financial year.
% Growth in SMME income	Growth in Income (TO at End of FY less TO at Start of FY over TO at Start of Financial Year).

4. Results

		Incubator 21	Incubator 15	Incubator 16	Incubator 19	Incubator 4	Incubator 1	Incubator 5	Incubator 9	N/I = No Information
Quantitative	Average	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
# new SMMEs established	19.81	22	34	68	22	33	39	21	47	
# new projects initiated	30.60	61	30	86	29	134	43	7	N/I	
# Clients supported	149.76	140	210	178	83	369	189	42	215	
# SMME's supported	91.67	72	200	138	64	105	146	40	215	
% SMME's that survived 1st year	0.71	100%	100%	100%	N/I	0%	100%	30%	96%	
% SMME's that survived 2nd year	0.61	87%	N/I	0%	N/I	0%	100%	0%	86%	
% black owned SMME's established	0.86	75%	100%	100%	100%	52%	100%	100%	N/I	
% black owned projects/SMME's in portfolio	0.80	95%	100%	100%	80%	100%	100%	100%	100%	
% woman owned projects/SMME's in portfolio	0.33	42%	93%	29%	19%	34%	77%	60%	30%	
% of youth supported	0.43	N/I	0%	N/I	N/I	41%	43%	N/I	N/I	
# Jobs (Direct) created	101.57	80	148	182	80	72	110	47	950	
Funds raised (Rm's)	1 165 232.71	1 700 000	1 074 574	4 697 954	N/I	1 200 000	4 780 694	513 000	N/I	
# Jobs (Indirect) created	166.21	167	N/I	413	202	99	379	156	923	
# Casual / Seasonal jobs created	31.05	0	87	35	49	19	211	9	N/I	
Total SMME T/O at start of year	R 3 997 030	R 8 300 763	R 2 648 821	R 9 220 355	R 9 569 502	R 1 859 617	N/I	R 1 300 000	R 155 000 000	
Total SMME T/O at end of year	R 4 602 862	R 8 924 970	R 3 758 893	R 13 490 486	R 10 500 000	R 2 451 753	R 11 662 386	R 1 700 000	R 177 200 000	
% growth in SMME income	0.36	8%	77%	46%	17%	32%	26%	76%	N/I	
Cost per SMME established	R 561 432	R 694 418	R 131 050	R 327 782	R 979 472	R 322 267	R 220 987	R 95 357	R 414 633	
Cost per project	R 319 909	R 250 446	R 148 523	R 259 176	R 743 048	R 79 364	R 200 430	R 286 070	N/I	
Cost per SMME supported	R 103 089	R 212 183	R 22 278	R 161 516	R 336 694	R 101 284	R 59 031	R 50 062	R 90 641	
Cost per direct job	R 152 737	R 190 965	R 30 106	R 122 468	R 269 355	R 147 706	R 78 350	R 42 606	R 20 513	
Cost for all clients	R 53 456	R 109 123	R 21 218	R 125 220	R 259 619	R 28 821	R 45 600	R 47 678	R 90 641	
Turnover per SMME supported	R 134 245	R 123 958	R 18 794	R 97 757	R 164 063	R 23 350	R 79 879	R 42 500	R 824 186	
Sundry income	R 288 251	R 408 920	R 183 658	R 2 259 153	R 382 392	R 0	R 347 356	R 2 490	R 20 039	
Funding government - STP	R 4 894 051	R 6 430 000	R 2 800 000	R 19 338 521	R 17 988 389	R 2 800 000	R 2 800 000	R 2 000 000	R 11 500 000	
Funding government - Provincial	R 64 286	R 1 350 000	R 0	R 0	R 0	R 0	R 0	R 0	R 0	
Local governments	R 607 313	R 3 703 580	R 0	R 0	R 0	R 1 300 000	R 0	R 0	R 7 750 000	
Funding other	R 959 289	R 2 925 000	R 1 349 263	R 553 267	R 0	R 6 483 558	R 4 985 021	R 0	R 0	
Levies and rental	R 1 031 892	R 459 688	R 122 771	R 138 221	R 3 177 603	R 51 240	R 486 102	R 0	R 217 719	
Funding Total	R 7 788 675	R 15 277 188	R 4 455 692	R 22 289 162	R 21 548 384	R 10 634 798	R 8 618 479	R 2 002 490	R 19 487 758	

		Incubator 14	Incubator 12	Incubator 10	Incubator 8	Incubator 3	Incubator 2	Incubator 11	Incubator 18	Incubator 7	Incubator 20	Incubator 17	Incubator 13	Incubator 6	N/I = No Information
Quantitative	Average	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Total
# new SMMEs established	19.81	11	10	14	10	1	6	4	13	11	13	14	9	14	416
# new projects initiated	30.60	10	12	51	8	30	8	10	7	11	11	39	9	16	612
# Clients supported	149.76	134	57	202	72	52	195	73	340	36	20	110	74	354	3145
# SMME's supported	91.67	122	57	175	38	22	62	38	93	24	15	60	42	197	1925
% SMME's that survived 1st year	0.71	83%	74%	100%	100%	93%	60%	0%	22%	100%	0%	98%	58%	100%	67%
% SMME's that survived 2nd year	0.61	83%	80%	80%	80%	93%	30%	0%	65%	98%	0%	90%	78%	100%	51%
% black owned SMME's established	0.86	64%	100%	30%	100%	100%	55%	38%	92%	86%	100%	100%	78%	80%	79%
% black owned projects/SMME's in portfolio	0.80	100%	74%	100%	100%	0%	100%	63%	3%	33%	100%	65%	36%	100%	82%
% woman owned projects/SMME's in portfolio	0.33	26%	5%	100%	45%	4%	11%	17%	19%	14%	20%	10%	22%	23%	36%
% of youth supported	0.43	33%	N/I	N/I	N/I	10%	N/I	0%	N/I	85%	N/I	N/I	N/I	N/I	11%
# Jobs (Direct) created	101.57	27	11	44	11	76	67	7	49	37	15	23	25	72	2133
Funds raised (Rm's)	1 165 232.71	N/I	0	N/I	552 064	0	882 000	0	3 000 000	156 000	0	0	0	1 252 670	19 808 956
# Jobs (Indirect) created	166.21	N/I	255	7	3	7	141	4	111	81	40	71	59	40	3158
# Casual / Seasonal jobs created	31.05	5	48	0	1	63	0	22	6	0	12	32	9	13	621
Total SMME T/O at start of year	R 3 997 030	R 705 112	R 960 000	R 250 000	R 342 610	R 23 870 153	R 955 067	R 0	R 3 970 590	R 5 478 549	R 0	R 1 900 000	R 4 612 434	R 108 575 141	R 339 518 714
Total SMME T/O at end of year	R 4 602 862	R 1 516 831	R 1 360 000	R 613 995	R 432 031	R 7 529 207	R 1 416 604	R 0	R 10 487 766	R 4 892 466	R 11 000	R 3 039 041	R 3 666 946	R 112 898 590	R 377 552 965
% growth in SMME income	0.36	N/I	42%	60%	N/I	9%	48%	0%	91%	-11%	0%	60%	N/I	N/I	29%
Cost per SMME established	R 561 432	R 205 555	R 322 500	R 239 547	R 486 217	R 2 963 547	R 996 085	R 768 029	R 166 669	R 337 146	R 241 727	R 158 989	R 352 578	R 1 365 523	R 11 790 076
Cost per project	R 319 909	R 226 110	R 268 750	R 65 758	R 607 771	R 98 785	N/I	R 307 212	R 309 528	R 337 146	R 285 677	R 57 073	R 352 578	R 1 194 833	R 6 078 277
Cost per SMME supported	R 103 089	R 18 534	R 56 579	R 19 164	R 127 952	R 134 707	R 96 395	R 80 845	R 23 298	R 154 525	R 209 497	R 37 097	R 75 552	R 97 042	R 2 164 875
Cost per direct job	R 152 737	R 83 744	R 293 182	R 76 220	R 442 016	R 38 994	R 89 202	R 438 874	R 44 218	R 100 233	R 209 497	R 96 776	R 126 928	R 265 518	R 3 207 469
Cost for all clients	R 53 456	R 134	R 56 579	R 16 602	R 67 530	R 56 991	R 30 649	R 42 084	R 6 373	R 103 017	R 157 123	R 20 235	R 42 881	R 54 004	R 1 122 584
Turnover per SMME supported	R 134 245	R 12 433	R 23 860	R 3 509	R 11 369	R 342 237	R 22 848	R 0	R 112 772	R 203 853	R 733	R 50 651	R 87 308	R 573 089	R 2 819 149
Sundry income	R 288 251	R 11 100	R 0	R 0	R 1 171 371	R 489 966	R 13 850	R 72 117	R 30 900	R 45 181	R 179 704	R 0	R 0	R 146 830	R 5 765 027
Funding government - STP	R 4 894 051	R 2 200 000	R 2 025 000	R 2 000 000	R 3 041 500	R 2 000 000	R 5 951 500	R 3 000 000	R 2 000 000	R 3 537 393	R 2 000 000	R 2 225 848	R 3 173 200	R 4 026 710	R 102 838 061
Funding government - Provincial	R 64 286	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 1 350 000
Local governments	R 607 313	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 0	R 12 753 580
Funding other	R 959 289	R 0	R 0	R 1 295 000	R 541 500	R 0	R 0	R 0	R 90 419	R 0	R 962 747	R 0	R 0	R 0	R 19 185 775
Levies and rental	R 1 031 892	R 50 000	R 1 200 000	R 58 662	R 107 800	R 473 581	R 11 158	R 0	R 45 375	R 126 031	R 0	R 0	R 0	R 14 943 785	R 21 669 736
Funding Total	R 7 788 675	R 2 261 100	R 3 225 000	R 3 353 662	R 4 862 171	R 2 963 547	R 5 976 508	R 3 072 117	R 2 166 694	R 3 708 605	R 3 142 451	R 2 225 848	R 3 173 200	R 19 117 325	R 163 562 180

4.1 Comparative analysis of KPI's

Comparing the incubators without normalisation of the statistics in terms of the KPIs give an indication of the matrix applied by SEDA. Looking at the numbers and making direct comparisons with the average of the incubators, the following can be pointed out:

- a) A total of 416 SMME's were created by 21 incubators during the financial year of March 2013 to February 2014 at the cost of R 163 562 180 (average cost of R 39 318 per SMME).
The SMME's created 2133 direct jobs, and generated a total turn-over of R 377 552 965 by the end of the financial year.
- b) Eight out of the 21 incubators create more SMME's than the average of 19.8.
- c) The top three incubators in terms of the number of SMME's they create are Incubator 16, Incubator 9 and Incubator 1.
- d) Incubator 1 stands out as the incubator that achieves higher than the average on 22 of the 30 KPIs listed.
- e) Incubator 16 stands out as the incubator that creates the most SMME's in this financial year but none of the incubators survives the second year. This indicates that Incubator 16 focusses on training of incubators and not trading
- f) Incubator 4 is the incubator with the most clients supported.
- g) 13 incubators create less than the average amount of SMME's per year, with the bottom performers being Incubator 3, Incubator 11 and Incubator 2.
- h) In terms of the amount of clients supported, nine incubators serve more than the average amount of clients (149).
Three incubators support more than 300 clients (Incubator 4, Incubator 18, and Incubator 6).
- i) In terms of the survival rate, 13 incubators have an above average performance for the survival of the first year in business, whilst 12 incubators show above average figures for the survival of the second year in business.
There are only two incubators (Incubator 1 and Incubator 6) that has a 100% survival rate in the second year of business.
- j) Of the eight incubators that creates more SMMEs than the average (i.e. more than 19), only three has SMMEs that survive their second year in business.
- k) Six incubators have an above average % of woman ownership, whilst only seven incubators are under the average in terms of black ownership.
- l) Few incubators report on the number of youths in their programme. Of the seven that reported, only three has an above average amount of youth in their programmes.
- m) Four incubators create more than the average amount of direct jobs (101.57). Incubator 9 creates the most jobs, with 950 direct jobs per annum reported.
- n) In terms of funds raised other than the STP funding, Incubator 1 is the lead incubator. Six incubators raised more than the average of R 1 165 232.71. Ten incubators did not raise any additional funds.
- o) The SMMEs turn-over average (R 17 978 712.620) at the end of the year is skewed by the high turn-over of the Construction Incubator (R 177 200 000) and Incubator 6 (R 112 898 590).
- p) The average of the SMME turn-over if you take these two high-income incubators out of the equation is R4 602 862.10. Six incubators achieve above the average in terms of SMME turn-over in the end of the year excluding the two high-income generating incubators.
- q) An incubator like Incubator 19 receives R 21 548 385.00 in funding per annum, for which it creates 22 SMMEs, of which only 80% survive the first two years in business. The turn-over the SMME's generate is R10 500 000.
- r) There are only seven incubators who's SMME's generate a higher turn-over than the amount funding they receive to run the incubator.
- s) The average cost per SMME established is R 561 432.19. 15 incubators create SMMEs below this average cost, with Incubator 5 as the most cost-effective per SMME created. Incubator 9 has the lowest cost per direct job created.
- t) Incubator 6 has the highest income from their SMME's through levies and rental and other income.
- u) The average amount of funding that the incubators receive per annum is R 7 788 675.23.
- v) Eight incubators receive more than the average amount of funding, with four incubators receiving approximately R 20 000 000 per annum.

4.2 Incubation performance independent of cost

Variable	Cluster 1 Average	Cluster 2 Average	Cluster 3 Average
Proposed name for the cluster	Top performing incubators	Seemingly top performing incubators	Average to weak performing incubators
Number of incubators in the cluster	4	3	14
Names of incubator in the cluster	1. Incubator 15 2. Incubator 9 3. Incubator 6 4. Incubator 1	1. Incubator 16 2. Incubator 10 3. Incubator 4	1. Incubator 21 2. Incubator 19 3. Incubator 20 4. Incubator 17 5. Incubator 18 6. Incubator 13 7. Incubator 14 8. Incubator 12 9. Incubator 3 10. Incubator 5 11. Incubator 11 12. Incubator 7 13. Incubator 8 14. Incubator 2
# New SMME established	33.50	38.33	11.93
# New projects initiated	29.67	90.33	18.00
# Clients supported	242.00	249.67	102.00
# SMME supported	189.50	139.33	53.50
% SMME's that survived 1st year	0.99	0.67	0.63
% SMME's that survived 2nd year	0.95	0.27	0.60
% black owned SMME's established	0.96	0.61	0.89
% black owned projects/SMME's in portfolio	1.00	1.00	0.70
% woman owned projects/SMMEs in portfolio	0.56	0.54	0.22
# Jobs (direct) created	320.00	99.33	39.64
Total SMME T/O at start of year	R 88 741 320.67	R 3 776 657.33	R 4 426 055.71
Total SMME T/O at end of year	R 76 379 967.25	R 5 518 744.69	R 3 962 633.00

Factor 1 - Turnover vs projects	5.30	0.61	-1.32
Factor 2 - New projects vs jobs	0.56	2.44	-1.03
Factor 3 - Black Ownership	0.83	1.80	-0.57
Factor 4 - Survival rate	1.42	-0.08	-0.20

The clustering independent of cost, excludes any calculation of cost or funding of these incubators. The 12 variables taken into account in this dataset are:

1. # New SMME established
2. # New projects Initiated
3. # Clients supported
4. # SMME supported
5. % SMME's that survived 1st year
6. % SMME's that survived 2nd year
7. % black owned SMME's established
8. % black owned projects/SMMEs in portfolio
9. % woman owned projects/SMMEs in portfolio
10. # Jobs (direct) created
11. Total SMME T/O at start of year
12. Total SMME T/O at end of year

The statistical analysis of these 12 performance indicators arranged the incubators into three clusters of similar performing incubators.

It is interesting to observe that the Clusters are not dominated by a specific industry's incubators. All three clusters have a mixture of incubators working in different sectors, indicating that the sector of the incubator is not a variable that influence the performance of the incubator specifically when comparing performance averages.

Considering the averages of the cluster, Cluster 1 establishes slightly less SMME's per annum than Cluster 2. Cluster 2 has a pipeline of new projects that are two times larger than the pipeline of Cluster 2. The average amount of clients supported between cluster 1 and 2 are very similar, but cluster 3 supports far less clients on average than both cluster 1 and 2. If you only consider the output objectives of the incubators, Cluster 2 might seem like the top performers.

If you however focus on the outcome objectives, i.e. the areas that is deemed very important in showing the long-term success of the incubator, like the number of SMME's that survive their first and second year from business, the number of direct jobs created, and the turn-over of the SMMEs, Cluster 1 is clearly the better performing incubators. The number of SMME's that survive their second year of incubation is especially low in Cluster 2. The biggest average difference between the clusters lies in the amount of jobs that the incubators in Cluster 1 generate, with the SMME turn-over numbers. When the socio-economic goals of incubation is considered, it is clear that Cluster 1 outperforms the other clusters by a large margin.

4.3 Clustering in relation to cost

Variable	Cluster 4 Average	Cluster 5 Average	Cluster 6 Average
Proposed name for the cluster	Large investment with large returns	Best value for money	Less cost effective
Number of incubators in the cluster	2	5	14
Names of incubator in the cluster	1. Incubator 9 2. Incubator 6	1. Incubator 16 2. Incubator 15 3. Incubator 1 4. Incubator 21 5. Incubator 19	1. Incubator 20 2. Incubator 17 3. Incubator 18 4. Incubator 13 5. Incubator 14 6. Incubator 12 7. Incubator 3 8. Incubator 5 9. Incubator 11 10. Incubator 8 11. Incubator 2 12. Incubator 10 13. Incubator 4 14. Incubator 7
# New SMME established	30.50	37.00	12.14
# New projects Initiated	16.00	49.80	24.79
# Clients supported	284.50	160.00	126.86
# SMME supported	206.00	124.00	63.79
% SMMEs that survived 1st year	0.98	1.00	0.58
% SMMEs that survived 2nd year	0.93	0.62	0.56
% black owned SMMEs established	0.80	0.97	0.82
% black owned projects/SMMEs in portfolio	1.00	0.95	0.71
% woman owned projects/SMMEs in portfolio	0.27	0.52	0.28
# Jobs (direct) created	511.00	120.00	36.50
Total SMME T/O at start of year	R 131 787 571.00	R 7 434 860.25	R 3 300 295.14
Total SMME T/O at end of year	R 145 049 295.00	R 9 667 347.00	R 2 794 117.15
Cost per SMME established	R 890 078.18	R 470 741.57	R 546 872.27
Cost per project	R 1 194 832.81	R 320 324.51	R 252 447.85
Cost per SMME supported	R 93 841.50	R 158 340.30	R 84 677.93
Cost per direct job	R 143 015.92	R 138 248.68	R 159 299.59

Cost for all clients	R 72 322.24	R 60 248.76	R 48 335.44
Factor 1 - Turnover vs projects	-1.21	2.43	-1.28
Factor 2 - New projects vs jobs	7.09	-0.30	-0.09
Factor 3 - Black ownership	-2.29	0.28	0.13
Factor 4 - Survival rate	1.10	0.68	-0.54

The clustering in relation to cost takes into account any cost and/or funding of these incubators. The variables taken into account in this clustering are:

1. # New SMME established
2. # New projects initiated
3. # Clients supported
4. # SMME supported
5. % SMME's that survived 1st year
6. % SMME's that survived 2nd year
7. % black owned SMME's established
8. % black owned projects/SMME's in portfolio
9. % woman owned projects/SMME's in portfolio
10. # Jobs (direct) created
11. Total SMME T/O at start of year
12. Total SMME T/O at end of year
13. Cost per SMME established
14. Cost per project
15. Cost per SMME supported
16. Cost per direct job
17. Cost for all clients

When these variables are considered in a statistical analysis, three clusters emerge again. The averages in the clusters and the dataset shows significant similarities.

When you include the cost factors into the variable for the statistical analysis, three clusters emerged again. Cluster 1 includes two incubators in which there is large amounts of investments with a large output return. Cluster 2 however include the stars again, with incubators performing the best in terms of their cost vs. outcome ratio.

The value for money incubators (Cluster 5) generate on average more SMME's at almost half the average cost of the high-investment cluster 4. The two incubators in cluster 4 supports significantly more clients than those in Cluster 5, but the cost per SMME created for Cluster 4 is almost double that of Cluster 5. The cost per direct job created and for supporting all clients are best balanced for Cluster 5.

